

S644LISTGB80  
SEQUENCE LISTING

<110> CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE  
UNIVERSITE DE MONTPELLIER 2  
WEILL Mylène  
FORT Philippe  
RAYMOND Michel  
PASTEUR Nicole

<120> Novel acetylcholinesterase gene responsible for insecticide resistance and applications thereof

<130> F644FR92

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<150> FR0207622

<151> 2002-06-20

<150> FR0213799

<151> 2002-11-05

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<170> PatentIn Ver. 2.1

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 Ser Pro Thr Ala Pro Trp Ala Leu Val Ser Arg Glu Glu Ala Thr Leu  
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 Arg Ala Leu Arg Leu Ala Glu Ala Val Gly Cys Pro His Glu Pro Ser  
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 Lys Leu Ser Asp Ala Val Glu Cys Leu Arg Gly Lys Asp Pro His Val  
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Gly	Ala	Thr	Pro	Arg	Arg	Arg	Gly	Leu	Thr	Arg	Arg	Glu	Ser	Asn	Ser	
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Thr	Leu	Asp	Val	Tyr	Asp	His	Arg	Ala	Leu	Ala	Ser	Glu	Glu	Asn	Val	
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ccg Pro	tcg Ser	cgt Arg	gtg Val 260	aca Thr	ctg Leu	ttc Phe	ggc Gly	gag Glu 265	agt Ser	gcc Ala	ggt Gly	gcc Ala	gtc Val 270	tcg Ser	gtg Val	816
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gag Glu 305	gaa Glu	gcc Ala	acg Thr	cta Leu	aga Arg 310	gca Ala	ctg Leu	cgg Arg	ttg Leu	gcc Ala 315	gag Glu	gcg Ala	gtc Val	ggc Gly	tgc Cys 320	960
ccg Pro	cac His	gaa Glu	ccg Pro	agc Ser 325	aag Lys	ctg Leu	agc Ser	gat Asp	gcg Ala 330	gtc Val	gag Glu	tgt Cys	ctg Leu	cgc Arg 335	ggc Gly	1008
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tgc Cys	gag Glu	ttc Phe 355	ccg Pro	ttc Phe	gtg Val	ccg Pro	gtg Val 360	gtc Val	gac Asp	ggt Gly	gcg Ala	ttc Phe 365	ctg Leu	gac Asp	gag Glu	1104
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gcc Ala	cgg Arg	cag Gln 435	gcg Ala	atc Ile	gtg Val	ttc Phe	gag Glu 440	tac Tyr	acc Thr	gac Asp	tgg Trp	acc Thr 445	gag Glu	ccg Pro	gac Asp	1344
aac Asn 450	ccg Pro	aac Asn	agc Ser	aac Asn	cgg Arg	gac Asp 455	gcg Ala	ctg Leu	gac Asp	aag Lys	atg Met 460	gtg Val	ggc Gly	gac Asp	tat Tyr	1392
cac His	ttc Phe	acc Thr	tgc Cys	aac Asn	gtg Val	aac Asn	gag Glu	ttc Phe	gcg Ala	cag Gln	cgg Arg	tac Tyr	gcc Ala	gag Glu	gag Glu	1440

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Thr	Gly	Asn	Pro	Asn	Pro	Asn	Thr	Ala	Ser	Ser	Glu	Phe	Pro	Glu	Trp																			
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 Arg His Pro Arg Pro Ala Glu Lys Trp Thr Gly Val Leu Asn Thr Thr  
 115 120 125  
 Thr Pro Pro Asn Ser Cys Val Gln Ile Val Asp Thr Val Phe Gly Asp  
 130 135 140  
 Phe Pro Gly Ala Thr Met Trp Asn Pro Asn Thr Pro Leu Ser Glu Asp  
 145 150 155 160  
 Cys Leu Tyr Ile Asn Val Val Ala Pro Arg Pro Arg Pro Lys Asn Ala  
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 Thr Leu Asp Val Tyr Asp His Arg Ala Leu Ala Ser Glu Glu Asn Val  
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 Pro Ser Arg Val Thr Leu Phe Gly Glu Ser Ala Gly Ala Val Ser Val  
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 Lys Asp Pro His Val Leu Val Asn Asn Glu Trp Gly Thr Leu Gly Ile  
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 355 360 365  
 Thr Pro Gln Arg Ser Leu Ala Ser Gly Arg Phe Lys Lys Thr Glu Ile  
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 Leu Thr Gly Ser Asn Thr Glu Glu Gly Tyr Tyr Phe Ile Ile Tyr Tyr  
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 Glu Phe Leu Gln Ala Val Arg Glu Leu Asn Pro Tyr Val Asn Gly Ala  
 420 425 430  
 Ala Arg Gln Ala Ile Val Phe Glu Tyr Thr Asp Trp Thr Glu Pro Asp  
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 Asn Pro Asn Ser Asn Arg Asp Ala Leu Asp Lys Met Val Gly Asp Tyr  
 450 455 460  
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 Thr Gly Asn Pro Asn Pro Asn Thr Ala Ser Ser Glu Phe Pro Glu Trp  
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 580 585 590  
 Lys Lys Tyr Leu Pro Gln Leu Val Ala Ala Thr Ser Asn Leu Pro Gly  
 595 600 605  
 Pro Ala Pro Pro Ser Glu Pro Cys Glu Ser Ser Ala Phe Phe Tyr Arg  
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 Phe Ile Gln

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<211> 3297

<212> DNA

<213> Culex pipiens strain S-LAB

<400> 6

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# s644LISTGB80

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 Ser Val His Cys Arg His His Asp Ile Gly Ser Ser Val Ala His Gln  
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														Asp

## s644LISTGB80

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Pro	Phe	Val	Pro 420	Val	Val	Asp	Gly	Ala 425	Phe	Leu	Asp	Glu	Thr 430	Pro	Gln		
Arg	Ser	Leu 435	Ala	Ser	Gly	Arg	Phe 440	Lys	Lys	Thr	Asp	Ile 445	Leu	Thr	Gly		
Ser	Asn 450	Thr	Glu	Glu	Gly	Tyr 455	Tyr	Phe	Ile	Ile	Tyr 460	Tyr	Leu	Thr	Glu		
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Gln	Ala	Val	Arg	Glu 485	Leu	Asn	Pro	Tyr	Val 490	Asn	Gly	Ala	Ala	Arg 495	Gln		
Ala	Ile	Val	Phe 500	Glu	Tyr	Thr	Asp	Trp 505	Ile	Glu	Pro	Asp	Asn 510	Pro	Asn		
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Cys	Asn 530	Val	Asn	Glu	Phe	Ala 535	Gln	Arg	Tyr	Ala	Glu 540	Glu	Gly	Asn	Asn		
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Arg	Trp	Thr	Gly	Val 565	Met	His	Gly	Asp	Glu 570	Ile	Asn	Tyr	Val	Phe 575	Gly		
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Pro	Asn 610	Pro	Ser	Thr	Pro	Ser 615	Val	Asp	Leu	Pro	Glu 620	Trp	Pro	Lys	His		
Thr 625	Ala	His	Gly	Arg	His 630	Tyr	Leu	Glu	Leu	Gly 635	Leu	Asn	Thr	Thr	Phe 640		
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Pro	Ser	Val 675	Pro	Cys	Glu	Ser	Ser 680	Ser	Thr	Ser	Tyr	Arg 685	Ser	Thr	Leu		
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 Ser Lys Gly Asn Pro Trp Pro Arg Trp Thr Gly Val Met His Gly Asp  
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&lt;212&gt; DNA

&lt;213&gt; Anopheles gambiae strain KISUMU

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 tacatgtatt tgtacactca cagaagcaaa ggtaaccctt ggccacgggtg gaccgggggtg 180  
 atgcatgggtg acgagatcaa ctatgtattc ggtgagccgt tgaattccga cctggggtag 240  
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<211> 273

<212> DNA

<213> Anopheles sundaicus

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atgcacgggtg	acgagattaa	ctacgtgttc	ggggaaccgc	tcaacccaag	cctcggctac	240
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tacatgtatc	tgtacacgca	ccgcagcaaa	ggcaacccgt	ggcccgctg	gacgggcgtg	180
atgcacggcg	acgagatcaa	ctacgtgttc	ggcgaaccgc	tcaacccac	cctcggctac	240
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tacatgtacc	tgtacacgca	ccgaagcaaa	ggcaacccat	ggccacgctg	gacgggcgtt	180
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&lt;220&gt;

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&lt;211&gt; 585

&lt;212&gt; PRT

&lt;213&gt; Ciona intestinalis

&lt;400&gt; 51

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          35          40          45
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          50          55          60
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          165          170          175
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305 310 315 320  
Asn Glu Gly Ser Tyr Phe Thr Leu Tyr Thr Val Pro Gly Phe Asn Ile  
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340 345 350  
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Thr Asp Trp Pro Arg Phe Asp Asp Val Arg Gln Arg Tyr Leu Glu Ile  
500 505 510  
Gly Ile Asp Asp Asp Val Met Gly Pro Phe Pro Asn Ser Phe Arg Cys  
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 Tyr Arg Leu Gly Pro Ile Gly Phe Leu Ala Pro Leu Ala Asp Glu Thr  
 145 150 155 160  
 Pro Gly Asn Val Gly Leu Leu Asp Gln Gln Leu Ala Leu Lys Trp Val  
 165 170 175  
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 195 200 205  
 Pro Ser Ser Arg Gly Leu Phe Ser Arg Val Ile Leu Gln Ser Gly Asn  
 210 215 220  
 Gln Met Thr Pro Trp Ser Thr Ile Ser Leu Glu Thr Ser Leu Asn Arg  
 225 230 235 240  
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 245 250 255  
 Ser Glu Ala Asp Ile Leu Ala Cys Leu Arg Thr His Thr Ala Asn Glu  
 260 265 270  
 Val Phe Ala Gly Ser Trp Ile Thr Lys Glu Ile Phe Asp Phe Pro Phe  
 275 280 285  
 Val Pro Val His Gly Thr Thr Phe Leu Pro Glu His Pro His Glu Val

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Asp Leu Ser Gly Leu Lys Thr Asn Thr Met Gly Arg Ser Ala Ala Ala 355 360 365		
Phe Met Tyr Thr Asp Trp Glu Asn Leu Asp Asn Glu Leu Gln Tyr Arg 370 375 380		
Asp Ala Val Asn Glu Ile Val Gly Asp Phe His Val Val Cys Pro Thr 385 390 395 400		
Val Leu Val Ser Lys Arg His Ser Asn Ser Phe Pro Asn Arg Asn Val 405 410 415		
Phe Leu Tyr His Leu Ser Tyr Arg Val Ser Thr Asn Pro Trp Pro Ile 420 425 430		
Trp Met Gly Val Met His Gly Tyr Glu Ile Glu Leu Met Phe Gly Thr 435 440 445		
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Phe Trp Gln Lys Tyr Leu Pro Ser Leu Gln Leu Ala Ser Ser Asn Met 530 535 540		
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 35 40 45  
 Ser Thr Met Val Gln Gly Arg Glu Val His Val Phe Asn Gly Val Pro  
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 Ala Glu Pro Trp His Gly Val Leu Asp Ala Thr Arg Leu Pro Pro Ser  
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 Cys Ile Gln Glu Arg Tyr Glu Tyr Phe Pro Gly Phe Ala Gly Glu Glu  
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 Met Trp Asn Pro Asn Thr Asn Val Ser Glu Asp Cys Leu Tyr Leu Asn  
 115 120 125  
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 165 170 175  
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 180 185 190  
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 195 200 205  
 Gly Ala Phe Gly Phe Leu Tyr Leu Ala Pro Tyr Ile Asn Gly Tyr Glu  
 210 215 220  
 Glu Asp Ala Pro Gly Asn Met Gly Met Trp Asp Gln Ala Leu Ala Ile  
 225 230 235 240  
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 Met Leu Lys Glu Ser Pro Ser Thr Val Met Gln Cys Met Arg Asn Val  
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 370 375 380  
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 500 505 510  
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 Arg Asp Leu Ser Arg Arg Met Val Leu Ser Val Ser Glu Phe Ala Arg  
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 545 550 555 560  
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 580 585 590  
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 Asp Ala Glu Leu Gly Thr Leu Glu Arg Glu His Ile His Ser Thr Thr  
 100 105 110

acc cgg cgg cgt ggc ctg acc cgg agg gag tcc agc tcc gat gcc acc 384  
 Thr Arg Arg Arg Gly Leu Thr Arg Arg Glu Ser Ser Ser Asp Ala Thr  
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gac Asp 130	cca Pro 135	gga Gly 140	432
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cga Arg 180	acc Thr 185	cca Pro 190	576
aac Asn 195	gac Asp 200	gac Asp 205	624
gag Ala 210	gag Glu 215	gag Glu 220	672
atc Ile 225	cca Pro 230	aat Asn 235	720
ctg Leu 245	ggg Gly 250	act Thr 255	768
gtg Val 260	gag Glu 265	gtg Val 270	816
tcg Ser 275	gag Glu 280	gag Glu 285	864
ccg Pro 290	gag Glu 295	gag Glu 300	912
aga Arg 305	gag Glu 310	gag Glu 315	960
gtc Val 325	gag Glu 330	gag Glu 335	1008
ctg Leu 340	gag Glu 345	gag Glu 350	1056
agt Ser 355	gag Glu 360	gag Glu 365	1104
acg 1152	gag 36	gag 36	

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ccg Pro	ttc Phe	gtt Val	ccg Pro 420	gtt Val	gtg Val	gac Asp	ggg Gly	gcc Ala 425	ttc Phe	ctc Leu	gat Asp	gag Glu	aca Thr 430	ccg Pro	cag Gln	1296
cgt Arg	tcg Ser	ttg Leu 435	gcc Ala	agc Ser	ggg Gly	cgc Arg	ttc Phe 440	aag Lys	aaa Lys	acg Thr	gac Asp	atc Ile 445	ctg Leu	acc Thr	ggc Gly	1344
agc Ser	aac Asn 450	acc Thr	gag Glu	gag Glu	ggg Gly	tac Tyr 455	tac Tyr	ttt Phe	atc Ile	att Ile	tac Tyr 460	tat Tyr	cta Leu	acc Thr	gaa Glu	1392
ctg Leu 465	ctc Leu	agg Arg	aaa Lys	gag Glu	gaa Glu 470	ggg Gly	gtc Val	acg Thr	gta Val	aca Thr 475	cgc Arg	gag Glu	gag Glu	ttc Phe	cta Leu 480	1440
cag Gln	gcc Ala	gtc Val	cgg Arg	gag Glu 485	ttg Leu	aat Asn	ccg Pro	tac Tyr	gtg Val 490	aac Asn	ggg Gly	gcc Ala	gcc Ala	cgg Arg 495	cag Gln	1488
gcc Ala	atc Ile	gtg Val	ttc Phe 500	gag Glu	tac Tyr	acg Thr	gac Asp	tgg Trp 505	atc Ile	gaa Glu	ccg Pro	gac Asp	aac Asn 510	ccg Pro	aac Asn	1536
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tgc Cys	aac Asn 530	gtg Val	aac Asn	gag Glu	ttc Phe	gcc Ala 535	cag Gln	cgg Arg	tac Tyr	gcc Ala	gag Glu 540	gag Glu	ggc Gly	aac Asn	aat Asn	1632
gtg Val 545	ttc Phe	atg Met	tac Tyr	ctg Leu	tac Tyr 550	acg Thr	cac His	aga Arg	agc Ser	aaa Lys 555	gga Gly	aat Asn	ccc Pro	tgg Trp	ccg Pro 560	1680
agg Arg	tgg Trp	act Thr	ggc Gly	gtg Val 565	atg Met	cac His	ggc Gly	gac Asp	gag Glu 570	atc Ile	aac Asn	tac Tyr	gtg Val	ttt Phe 575	ggc Gly	1728
gaa Glu	ccg Pro	ctg Leu	aac Asn 580	tcg Ser	gcc Ala	ctc Leu	ggc Gly	tac Tyr 585	cag Gln	gac Asp	gac Asp	gag Glu	aag Lys 590	gac Asp	ttt Phe	1776
agc Ser	cgg Arg	aaa Lys 595	att Ile	atg Met	cga Arg	tac Tyr	tgg Trp 600	tcc Ser	aac Asn	ttt Phe	gcc Ala	aag Lys 605	act Thr	ggc Gly	aat Asn	1824
cca Pro	aac Asn 610	ccg Pro	agt Ser	acg Thr	ccg Pro	agc Ser 615	gtg Val	gac Asp	ctg Leu	ccc Pro	gaa Glu 620	tgg Trp	ccc Pro	aag Lys	cac His	1872

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acc	gcc	cac	gga	cga	cac	tat	ctg	gag	ctg	gga	ctg	aac	acg	acc	ttc	1920
Thr	Ala	His	Gly	Arg	His	Tyr	Leu	Glu	Leu	Gly	Leu	Asn	Thr	Thr	Phe	
625					630					635					640	
gtg	gga	cgg	ggc	cca	cga	ttg	cgg	cag	tgc	gct	ttc	tgg	aag	aaa	tat	1968
Val	Gly	Arg	Gly	Pro	Arg	Leu	Arg	Gln	Cys	Ala	Phe	Trp	Lys	Lys	Tyr	
				645					650					655		
ttg	ccg	caa	cta	gta	gca	gct	acc	tct	aac	ctc	caa	gta	act	ccc	gcg	2016
Leu	Pro	Gln	Leu	Val	Ala	Ala	Thr	Ser	Asn	Leu	Gln	Val	Thr	Pro	Ala	
			660					665					670			
cct	agc	gta	cct	tgc	gaa	agc	agc	tca	aca	tct	tat	cga	tcc	act	cta	2064
Pro	Ser	Val	Pro	Cys	Glu	Ser	Ser	Ser	Thr	Ser	Tyr	Arg	Ser	Thr	Leu	
		675				680						685				
ctt	cta	ata	gtc	aca	cta	ctt	tta	gta	acg	cgg	ttc	aag	att	taa		2109
Leu	Leu	Ile	Val	Thr	Leu	Leu	Leu	Val	Thr	Arg	Phe	Lys	Ile			
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<210> 57

<211> 702

<212> -PRT

<213> Culex pipiens strain SR

<400> 57

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			20					25					30		
Ser	Val	His	Cys	Arg	His	His	Asp	Ile	Gly	Ser	Ser	Val	Ala	His	Gln
		35					40					45			
Leu	Gly	Ser	Lys	Tyr	Ser	Gln	Ser	Ser	Ser	Leu	Ser	Ser	Ser	Ser	Gln
	50					55					60				
Ser	Ser	Ser	Ser	Leu	Ala	Glu	Glu	Ala	Thr	Leu	Asn	Lys	Asp	Ser	Asp
	65				70					75					80
Ala	Phe	Phe	Thr	Pro	Tyr	Ile	Gly	His	Gly	Asp	Ser	Val	Arg	Ile	Val
				85					90					95	
Asp	Ala	Glu	Leu	Gly	Thr	Leu	Glu	Arg	Glu	His	Ile	His	Ser	Thr	Thr
		100						105					110		
Thr	Arg	Arg	Arg	Gly	Leu	Thr	Arg	Arg	Glu	Ser	Ser	Ser	Asp	Ala	Thr
		115					120					125			
Asp	Ser	Asp	Pro	Leu	Val	Ile	Thr	Thr	Asp	Lys	Gly	Lys	Ile	Arg	Gly
	130					135					140				
Thr	Thr	Leu	Glu	Ala	Pro	Ser	Gly	Lys	Lys	Val	Asp	Ala	Trp	Met	Gly
	145				150					155					160
Ile	Pro	Tyr	Ala	Gln	Pro	Pro	Leu	Gly	Pro	Leu	Arg	Phe	Arg	His	Pro
			165						170					175	
Arg	Pro	Ala	Glu	Arg	Trp	Thr	Gly	Val	Leu	Asn	Ala	Thr	Lys	Pro	Pro
		180						185					190		

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Asn Ser Cys Val Gln Ile Val Asp Thr Val Phe Gly Asp Phe Pro Gly  
 195 200 205  
 Ala Thr Met Trp Asn Pro Asn Thr Pro Leu Ser Glu Asp Cys Leu Tyr  
 210 215 220  
 Ile Asn Val Val Val Pro Arg Pro Arg Pro Lys Asn Ala Ala Val Met  
 225 230 235 240  
 Leu Trp Ile Phe Gly Gly Ser Phe Tyr Ser Gly Thr Ala Thr Leu Asp  
 245 250 255  
 Val Tyr Asp His Arg Thr Leu Ala Ser Glu Glu Asn Val Ile Val Val  
 260 265 270  
 Ser Leu Gln Tyr Arg Val Ala Ser Leu Gly Phe Leu Phe Leu Gly Thr  
 275 280 285  
 Pro Glu Ala Pro Gly Asn Ala Gly Leu Phe Asp Gln Asn Leu Ala Leu  
 290 295 300  
 Arg Trp Val Arg Asp Asn Ile His Arg Phe Gly Gly Asp Pro Ser Arg  
 305 310 315 320  
 Val Thr Leu Phe Gly Glu Ser Ala Gly Ala Val Ser Val Ser Leu His  
 325 330 335  
 Leu Leu Ser Ala Leu Ser Arg Asp Leu Phe Gln Arg Ala Ile Leu Gln  
 340 345 350  
 Ser Gly Ser Pro Thr Ala Pro Trp Ala Leu Val Ser Arg Glu Glu Ala  
 355 360 365  
 Thr Leu Arg Ala Leu Arg Leu Ala Glu Ala Val Asn Cys Pro His Asp  
 370 375 380  
 Ala Thr Lys Leu Ser Asp Ala Val Glu Cys Leu Arg Thr Lys Asp Pro  
 385 390 395 400  
 Asn Glu Leu Val Asp Asn Glu Trp Gly Thr Leu Gly Ile Cys Glu Phe  
 405 410 415  
 Pro Phe Val Pro Val Val Asp Gly Ala Phe Leu Asp Glu Thr Pro Gln  
 420 425 430  
 Arg Ser Leu Ala Ser Gly Arg Phe Lys Lys Thr Asp Ile Leu Thr Gly  
 435 440 445  
 Ser Asn Thr Glu Glu Gly Tyr Tyr Phe Ile Ile Tyr Tyr Leu Thr Glu  
 450 455 460  
 Leu Leu Arg Lys Glu Glu Gly Val Thr Val Thr Arg Glu Glu Phe Leu  
 465 470 475 480  
 Gln Ala Val Arg Glu Leu Asn Pro Tyr Val Asn Gly Ala Ala Arg Gln  
 485 490 495  
 Ala Ile Val Phe Glu Tyr Thr Asp Trp Ile Glu Pro Asp Asn Pro Asn  
 500 505 510  
 Ser Asn Arg Asp Ala Leu Asp Lys Met Val Gly Asp Tyr His Phe Thr  
 515 520 525

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Cys Asn Val Asn Glu Phe Ala Gln Arg Tyr Ala Glu Gly Asn Asn  
530 535 540

Val Phe Met Tyr Leu Tyr Thr His Arg Ser Lys Gly Asn Pro Trp Pro  
545 550 555 560

Arg Trp Thr Gly Val Met His Gly Asp Glu Ile Asn Tyr Val Phe Gly  
565 570 575

Glu Pro Leu Asn Ser Ala Leu Gly Tyr Gln Asp Asp Glu Lys Asp Phe  
580 585 590

Ser Arg Lys Ile Met Arg Tyr Trp Ser Asn Phe Ala Lys Thr Gly Asn  
595 600 605

Pro Asn Pro Ser Thr Pro Ser Val Asp Leu Pro Glu Trp Pro Lys His  
610 615 620

Thr Ala His Gly Arg His Tyr Leu Glu Leu Gly Leu Asn Thr Thr Phe  
625 630 635 640

Val Gly Arg Gly Pro Arg Leu Arg Gln Cys Ala Phe Trp Lys Lys Tyr  
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Leu Pro Gln Leu Val Ala Ala Thr Ser Asn Leu Gln Val Thr Pro Ala  
660 665 670

Pro Ser Val Pro Cys Glu Ser Ser Ser Thr Ser Tyr Arg Ser Thr Leu  
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<211> 18  
<212> DNA  
<213> Artificial sequence

<220>  
<223> Description of artificial sequence:primer

<400> 58  
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18

<210> 59  
<211> 21  
<212> DNA  
<213> Artificial sequence

<220>  
<223> Description of artificial sequence:primer

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21

<210> 60  
<211> 459  
<212> DNA  
<213> Culex pipiens pipiens strain Espro (R)



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<220> -

<221> - CDS

<222> (3)..(458)

<400> 60

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  Gly Lys Ile Arg Gly Thr Thr Leu Glu Ala Pro Ser Gly Lys Lys
    1          5          10
gtg gac gca tgg atg ggc att ccg tac gcg cag ccc ccg ctg ggt ccg      95
Val Asp Ala Trp Met Gly Ile Pro Tyr Ala Gln Pro Pro Leu Gly Pro
                20          25          30
ctc cgg ttt cga cat ccg cga ccc gcc gaa aga tgg acc ggt gtg ctg     143
Leu Arg Phe Arg His Pro Arg Pro Ala Glu Arg Trp Thr Gly Val Leu
                35          40          45
aac gcg acc aaa cca ccc aac tcc tgc gtc cag atc gtg gac acc gtg     191
Asn Ala Thr Lys Pro Pro Asn Ser Cys Val Gln Ile Val Asp Thr Val
                50          55          60
ttc ggt gac ttc ccg ggg gcc acc atg tgg aac ccg aac aca ccc ctc     239
Phe Gly Asp Phe Pro Gly Ala Thr Met Trp Asn Pro Asn Thr Pro Leu
                65          70          75
tcg gag gac tgt ctg tac atc aac gtg gtc gtg cca agg ccg agg ccc     287
Ser Glu Asp Cys Leu Tyr Ile Asn Val Val Val Pro Arg Pro Arg Pro
    80          85          90          95
aag aat gcc gct gtc atg ctg tgg atc ttt ggg ggt agc ttc tac tcc     335
Lys Asn Ala Ala Val Met Leu Trp Ile Phe Gly Gly Ser Phe Tyr Ser
                100          105          110
ggg act gcc acg ttg gac gtg tac gat cat cgg acg ctg gcc tcg gag     383
Gly Thr Ala Thr Leu Asp Val Tyr Asp His Arg Thr Leu Ala Ser Glu
                115          120          125
gag aac gtg atc gtg gtt tcg ctg cag tac cgt gtc gca agt ctt ggt     431
Glu Asn Val Ile Val Val Ser Leu Gln Tyr Arg Val Ala Ser Leu Gly
                130          135          140
ttt ctc ttc ctg ggc aca ccg gag gca c
Phe Leu Phe Leu Gly Thr Pro Glu Ala
    145          150

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<210> 61

<211> 461

<212> DNA

<213> Culex pipiens quinquefasciatus strain ProR(S)

<220>

<221> CDS

<222> (3)..(458)

<400> 61

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ac aag ggc aaa atc cgt gga acg aca ctg gaa gcg cct agt gga aag      47
  Lys Gly Lys Ile Arg Gly Thr Thr Leu Glu Ala Pro Ser Gly Lys
    1          5          10
aag gtg gac gca tgg atg ggc att ccg tac gcg cag ccc ccg ctg ggt     95
Lys Val Asp Ala Trp Met Gly Ile Pro Tyr Ala Gln Pro Pro Leu Gly
                20          25          30

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ccg ctc cgg ttt cga cat ccg cga ccc gcc gaa aga tgg acc ggt gtg	143
Pro Leu Arg Phe Arg His Pro Arg Pro Ala Glu Arg Trp Thr Gly Val	
	35 40 45
ctg aac gcg acc aaa ccg ccc aac tcc tgc gtc cag atc gtg gac acc	191
Leu Asn Ala Thr Lys Pro Pro Asn Ser Cys Val Gln Ile Val Asp Thr	
	50 55 60
gtg ttc ggt gac ttc ccg ggg gcc acc atg tgg aac ccg aac aca ccg	239
Val Phe Gly Asp Phe Pro Gly Ala Thr Met Trp Asn Pro Asn Thr Pro	
	65 70 75
ctc tcg gag gac tgt ctg tac atc aac gtg gtc gtg cca cgg ccc agg	287
Leu Ser Glu Asp Cys Leu Tyr Ile Asn Val Val Pro Arg Pro Arg	
	80 85 90 95
ccc aag aat gcc gcc gtc atg ctg tgg atc ttc ggg ggt ggc ttc tac	335
Pro Lys Asn Ala Ala Val Met Leu Trp Ile Phe Gly Gly Gly Phe Tyr	
	100 105 110
tcc ggg act gcc acg ctg gac gtg tac gac cac cgg acg ctg gcc tcg	383
Ser Gly Thr Ala Thr Leu Asp Val Tyr Asp His Arg Thr Leu Ala Ser	
	115 120 125
gag gag aac gtg atc gta gtt tcg ctg cag tac cgt gtc gca agt ctt	431
Glu Glu Asn Val Ile Val Val Ser Leu Gln Tyr Arg Val Ala Ser Leu	
	130 135 140
ggg ttt ctc ttc ctg ggc aca ccg gag gca	461
Gly Phe Leu Phe Leu Gly Thr Pro Glu	
	145 150

<210> 62

<211> 448

<212> DNA

<213> Culex pipiens pipiens strain S-LAB (S)

<220>

<221> CDS

<222> (3)..(446)

<400> 62

ag ggc aaa atc cgt gga acg aca ctg gaa gcg cct agt gga aag aag	47
Gly Lys Ile Arg Gly Thr Thr Leu Glu Ala Pro Ser Gly Lys Lys	
	1 5 10 15

gtg gac gca tgg atg ggc att ccg tac gcg cag ccc ccg ctg ggt ccg	95
Val Asp Ala Trp Met Gly Ile Pro Tyr Ala Gln Pro Pro Leu Gly Pro	
	20 25 30

ctc cgg ttt cga cat ccg cga ccc gcc gaa aga tgg acc ggt gtg ctg	143
Leu Arg Phe Arg His Pro Arg Pro Ala Glu Arg Trp Thr Gly Val Leu	
	35 40 45

aac gcg acc aaa ccg ccc aac tcc tgc gtc cag atc gtg gac acc gtg	191
Asn Ala Thr Lys Pro Pro Asn Ser Cys Val Gln Ile Val Asp Thr Val	
	50 55 60

ttc ggt gac ttc ccg ggg gcc acc atg tgg aac ccg aac aca ccg ctc	239
Phe Gly Asp Phe Pro Gly Ala Thr Met Trp Asn Pro Asn Thr Pro Leu	
	65 70 75

s644LISTGB80

tcg gag gac tgt ctg tac atc aac gtg gtc gtg cca cgg ccc agg ccc 287  
Ser Glu Asp Cys Leu Tyr Ile Asn Val Val Val Pro Arg Pro Arg Pro  
80 85 90 95

aag aat gcc gcc gtc atg ctg tgg atc ttc ggg ggt ggc ttc tac tcc 335  
Lys Asn Ala Ala Val Met Leu Trp Ile Phe Gly Gly Gly Phe Tyr Ser  
100 105 110

ggg act gcc acg ctg gac gtg tac gac cac cgg acg ctg gcc tcg gag 383  
Gly Thr Ala Thr Leu Asp Val Tyr Asp His Arg Thr Leu Ala Ser Glu  
115 120 125

gag aac gtg atc gta gtt tcg ctg cag tac cgt gtc gca agt ctt ggg 431  
Glu Asn Val Ile Val Val Ser Leu Gln Tyr Arg Val Ala Ser Leu Gly  
130 135 140

ttt ctc ttc ctg ggc ac 448  
Phe Leu Phe Leu Gly  
145

<210> 63

<211> 459

<212> DNA

<213> Culex pipiens pipiens strain Padova (R)

<220>

<221> CDS

<222> (3)..(458)

<400> 63

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Gly Lys Ile Arg Gly Thr Thr Leu Glu Ala Pro Ser Gly Lys Lys  
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gtg gac gca tgg atg ggc att ccg tac gcg cag ccc ccg ctg ggt ccg 95  
Val Asp Ala Trp Met Gly Ile Pro Tyr Ala Gln Pro Pro Leu Gly Pro  
20 25 30

ctc cgg ttt cga cat ccg cga ccc gcc gaa aga tgg acc ggt gtg ctg 143  
Leu Arg Phe Arg His Pro Arg Pro Ala Glu Arg Trp Thr Gly Val Leu  
35 40 45

aac gcg acc aaa cca ccc aac tcc tgc gtc cag atc gtg gac acc gtg 191  
Asn Ala Thr Lys Pro Pro Asn Ser Cys Val Gln Ile Val Asp Thr Val  
50 55 60

ttc ggt gac ttc ccg ggg gcc acc atg tgg aac ccg aac aca ccc ctc 239  
Phe Gly Asp Phe Pro Gly Ala Thr Met Trp Asn Pro Asn Thr Pro Leu  
65 70 75

tcg gag gac tgt ctg tac atc aac gtg gtc gtg cca agg ccg agg ccc 287  
Ser Glu Asp Cys Leu Tyr Ile Asn Val Val Val Pro Arg Pro Arg Pro  
80 85 90 95

aag aat gcc gct gtc atg ctg tgg atc ttt ggg ggt agc ttc tac tcc 335  
Lys Asn Ala Ala Val Met Leu Trp Ile Phe Gly Gly Ser Phe Tyr Ser  
100 105 110

ggg act gcc acg ttg gac gtg tac gat cat cgg acg ctg gcc tcg gag 383  
Gly Thr Ala Thr Leu Asp Val Tyr Asp His Arg Thr Leu Ala Ser Glu  
115 120 125

gag aac gtg atc gtg gtt tcg ctg cag tac cgt gtc gca agt ctt ggt 431  
Page 43

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Glu Asn Val Ile Val Val Ser Leu Gln Tyr Arg Val Ala Ser Leu Gly  
 130 135 140

ttt ctc ttc ctg ggc aca ccg gag gca c 459  
 Phe Leu Phe Leu Gly Thr Pro Glu Ala  
 145 150

<210> 64  
 <211> 463  
 <212> DNA  
 <213> Culex pipiens pipiens strain Praias (R)

<220>  
 <221> CDS  
 <222> (1)..(462)

<400> 64

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aag gtg gac gca tgg atg ggc att ccg tac gcg cag ccc ccg ctg ggt 96  
 Lys Val Asp Ala Trp Met Gly Ile Pro Tyr Ala Gln Pro Pro Leu Gly  
 20 25 30

ccg ctc cgg ttt cga cat ccg cga ccc gcc gaa aga tgg acc ggt gtg 144  
 Pro Leu Arg Phe Arg His Pro Arg Pro Ala Glu Arg Trp Thr Gly Val  
 35 40 45

ctg aac gcg acc aaa cca ccc aac tcc tgc gtc cag atc gtg gac acc 192  
 Leu Asn Ala Thr Lys Pro Pro Asn Ser Cys Val Gln Ile Val Asp Thr  
 50 55 60

gtg ttc ggt gac ttc ccg ggg gcc acc atg tgg aac ccg aac aca ccc 240  
 Val Phe Gly Asp Phe Pro Gly Ala Thr Met Trp Asn Pro Asn Thr Pro  
 65 70 75 80

ctc tcg gag gac tgt ctg tac atc aac gtg gtc gtg cca agg ccg agg 288  
 Leu Ser Glu Asp Cys Leu Tyr Ile Asn Val Val Val Pro Arg Pro Arg  
 85 90 95

ccc aag aat gcc gct gtc atg ctg tgg atc ttt ggg ggt agc ttc tac 336  
 Pro Lys Asn Ala Ala Val Met Leu Trp Ile Phe Gly Gly Ser Phe Tyr  
 100 105 110

tcc ggg act gcc acg ttg gac gtg tac gat cat cgg acg ctg gcc tcg 384  
 Ser Gly Thr Ala Thr Leu Asp Val Tyr Asp His Arg Thr Leu Ala Ser  
 115 120 125

gag gag aac gtg atc gtg gtt tcg ctg cag tac cgt gtc gca agt ctt 432  
 Glu Glu Asn Val Ile Val Val Ser Leu Gln Tyr Arg Val Ala Ser Leu  
 130 135 140

ggt ttt ctc ttc ctg ggc aca ccg gag gca c 463  
 Gly Phe Leu Phe Leu Gly Thr Pro Glu Ala  
 145 150

<210> 65  
 <211> 463  
 <212> DNA  
 <213> Culex pipiens quinquefasciatus strain Supercar (R)

<220>

s644LISTGB80

<221> CDS

<222> (1)..(462)

<400> 65

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1				5					10					15		
aag	gtg	gac	gca	tgg	atg	ggc	att	ccg	tac	gcg	cag	ccc	ccg	ctg	ggt	96
Lys	Val	Asp	Ala	Trp	Met	Gly	Ile	Pro	Tyr	Ala	Gln	Pro	Pro	Leu	Gly	
			20					25					30			
ccg	ctc	cgg	ttt	cga	cat	ccg	cga	ccc	gcc	gaa	aga	tgg	acc	ggt	gtg	144
Pro	Leu	Arg	Phe	Arg	His	Pro	Arg	Pro	Ala	Glu	Arg	Trp	Thr	Gly	Val	
		35					40					45				
ctg	aac	gcg	acc	aaa	cca	ccc	aac	tcc	tgc	gtc	cag	atc	gtg	gac	acc	192
Leu	Asn	Ala	Thr	Lys	Pro	Pro	Asn	Ser	Cys	Val	Gln	Ile	Val	Asp	Thr	
	50					55					60					
gtg	ttc	ggt	gac	ttc	ccg	ggg	gcc	acc	atg	tgg	aac	ccg	aac	aca	ccc	240
Val	Phe	Gly	Asp	Phe	Pro	Gly	Ala	Thr	Met	Trp	Asn	Pro	Asn	Thr	Pro	
65					70					75					80	
ctc	tcg	gag	gac	tgt	ctg	tac	atc	aac	gtg	gtc	gtg	cca	agg	ccg	agg	288
Leu	Ser	Glu	Asp	Cys	Leu	Tyr	Ile	Asn	Val	Val	Val	Pro	Arg	Pro	Arg	
				85					90					95		
ccc	aag	aat	gcc	gct	gtc	atg	ctg	tgg	atc	ttt	ggg	ggt	agc	ttc	tac	336
Pro	Lys	Asn	Ala	Ala	Val	Met	Leu	Trp	Ile	Phe	Gly	Gly	Ser	Phe	Tyr	
			100					105					110			
tcc	ggg	act	gcc	acg	ttg	gac	gtg	tac	gat	cat	cgg	acg	ctg	gcc	tcg	384
Ser	Gly	Thr	Ala	Thr	Leu	Asp	Val	Tyr	Asp	His	Arg	Thr	Leu	Ala	Ser	
		115					120					125				
gag	gag	aac	gtg	atc	gtg	gtt	tcg	ctg	cag	tac	cgt	gtc	gca	agt	ctt	432
Glu	Glu	Asn	Val	Ile	Val	Val	Ser	Leu	Gln	Tyr	Arg	Val	Ala	Ser	Leu	
	130					135					140					
ggt	ttt	ctc	ttc	ctg	ggc	aca	ccg	gag	gca	c						463
Gly	Phe	Leu	Phe	Leu	Gly	Thr	Pro	Glu	Ala							
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<210> 66

<211> 448

<212> DNA

<213> Culex pipiens pipiens strain Bruges A (S)

<220>

<221> CDS

<222> (3)..(446)

<400> 66

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	1				5				10					15		
gtg	gac	gca	tgg	atg	ggc	att	ccg	tac	gcg	cag	ccc	ccg	ctg	ggt	ccg	95
Val	Asp	Ala	Trp	Met	Gly	Ile	Pro	Tyr	Ala	Gln	Pro	Pro	Leu	Gly	Pro	
			20					25					30			
ctc	cgg	ttt	cga	cat	ccg	cga	ccc	gcc	gaa	aga	tgg	acc	ggt	gtg	ctg	143
											45					

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<211> 457
<212> DNA
<213> Culex pipiens quinquefasciatus strain BO (R)
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<221> CDS  
<222> (1)..(456)
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[illegible]

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85	90	95	
aat gcc gcc gtc atg ctg tgg atc ttc ggg ggt agc ttc tac tcc ggg Asn Ala Ala Val Met Leu Trp Ile Phe Gly Gly Ser Phe Tyr Ser Gly	100	110	336
act gcc acg ctg gac gtg tac gac cac cgg acg ctg gcc tcg gag gag Thr Ala Thr Leu Asp Val Tyr Asp His Arg Thr Leu Ala Ser Glu Glu	115	125	384
aac gtg atc gta gtt tcg ctg cag tac cgt gtc gca agt ctt ggt ttt Asn Val Ile Val Val Ser Leu Gln Tyr Arg Val Ala Ser Leu Gly Phe	130	140	432
ctc ttc ctg ggc aca ccg gag gca c Leu Phe Leu Gly Thr Pro Glu Ala	145	150	457
<210> 68			
<211> 447			
<212> .DNA			
<213> Culex pipiens quinquefasciatus strain DJI (R)			
<220> -			
<221> CDS			
<222> (1)..(444)			
<400> -68			
ggc aaa atc cgt gga acg aca ctg gaa gcg cct agc gga aag aag gtg Gly Lys Ile Arg Gly Thr Thr Leu Glu Ala Pro Ser Gly Lys Lys Val	1	5	48
gac gca tgg atg ggc att ccg tac gcg cag cct ccg ctg ggt ccg ctc Asp Ala Trp Met Gly Ile Pro Tyr Ala Gln Pro Pro Leu Gly Pro Leu	20	25	96
cgg ttt cga cat ccg cga ccc gcc gaa aga tgg acc ggt gtg ctg aac Arg Phe Arg His Pro Arg Pro Ala Glu Arg Trp Thr Gly Val Leu Asn	35	40	144
gcg acc aaa ccg ccc aac tcc tgc gtc cag atc gtg gac acc gtg ttc Ala Thr Lys Pro Pro Asn Ser Cys Val Gln Ile Val Asp Thr Val Phe	50	55	192
ggt gac ttc ccg ggg gcc acc atg tgg aac ccg aac aca ccg ctc tcg Gly Asp Phe Pro Gly Ala Thr Met Trp Asn Pro Asn Thr Pro Leu Ser	65	70	240
gag gac tgt ctg tac atc aac gtg gtc gtg cca cgg ccc agg ccc aag Glu Asp Cys Leu Tyr Ile Asn Val Val Val Pro Arg Pro Arg Pro Lys	85	90	288
aat gcc gcc gtc atg ctg tgg atc ttc ggg ggt agc ttc tac tcc ggg Asn Ala Ala Val Met Leu Trp Ile Phe Gly Gly Ser Phe Tyr Ser Gly	100	105	336
act gcc acg ctg gac gtg tac gac cac cgg acg ctg gcc tcg gag gag Thr Ala Thr Leu Asp Val Tyr Asp His Arg Thr Leu Ala Ser Glu Glu	115	120	384
aac gtg atc gta gtt tcg ctg cag tac cgt gtc gca agt ctt ggt ttt Asn Val Ile Val Val Ser Leu Gln Tyr Arg Val Ala Ser Leu Gly Phe	130	135	432

## S644LISTGB80

ctc ttc ctg ggc aca  
Leu Phe Leu Gly  
145

447

&lt;210&gt; 69

&lt;211&gt; 457

&lt;212&gt; DNA

&lt;213&gt; Culex pipiens quinquefasciatus strain Harare (R)

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1)..(456)

&lt;400&gt; 69

ggc aaa atc cgt gga acg aca ctg gaa gcg cct agc gga aag aag gtg 48  
Gly Lys Ile Arg Gly Thr Thr Leu Glu Ala Pro Ser Gly Lys Lys Val  
1 5 10 15

gac gca tgg atg ggc att ccg tac gcg cag cct ccg ctg ggt ccg ctc 96  
Asp Ala Trp Met Gly Ile Pro Tyr Ala Gln Pro Pro Leu Gly Pro Leu  
20 25 30

cgg ttt cga cat ccg cga ccc gcc gaa aga tgg acc ggt gtg ctg aac 144  
Arg Phe Arg His Pro Arg Pro Ala Glu Arg Trp Thr Gly Val Leu Asn  
35 40 45

gcg acc aaa ccg ccc aac tcc tgc gtc cag atc gtg gac acc gtg ttc 192  
Ala Thr Lys Pro Pro Asn Ser Cys Val Gln Ile Val Asp Thr Val Phe  
50 55 60

ggt gac ttc ccg ggg gcc acc atg tgg aac ccg aac aca ccg ctc tcg 240  
Gly Asp Phe Pro Gly Ala Thr Met Trp Asn Pro Asn Thr Pro Leu Ser  
65 70 75 80

gag gac tgt ctg tac atc aac gtg gtc gtg cca cgg ccc agg ccc aag 288  
Glu Asp Cys Leu Tyr Ile Asn Val Val Val Pro Arg Pro Arg Pro Lys  
85 90 95

aat gcc gcc gtc atg ctg tgg atc ttc ggg ggt agc ttc tac tcc ggg 336  
Asn Ala Ala Val Met Leu Trp Ile Phe Gly Gly Ser Phe Tyr Ser Gly  
100 105 110

act gcc acg ctg gac gtg tac gac cac cgg acg ctg gcc tcg gag gag 384  
Thr Ala Thr Leu Asp Val Tyr Asp His Arg Thr Leu Ala Ser Glu Glu  
115 120 125

aac gtg atc gta gtt tcg ctg cag tac cgt gtc gca agt ctt ggt ttt 432  
Asn Val Ile Val Val Ser Leu Gln Tyr Arg Val Ala Ser Leu Gly Phe  
130 135 140

ctc ttc ctg ggc aca ccg gag gca c 457  
Leu Phe Leu Gly Thr Pro Glu Ala  
145 150

&lt;210&gt; 70

&lt;211&gt; 458

&lt;212&gt; DNA

&lt;213&gt; Culex pipiens quinquefasciatus strain Martinique (R)

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1)..(456)



s644LISTGB80

<400>. 70

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Gly	Lys	Ile	Arg	Gly	Thr	Thr	Leu	Glu	Ala	Pro	Ser	Gly	Lys	Lys	Val	
1				5				10						15		
gac	gca	tgg	atg	ggc	att	ccg	tac	gcg	cag	cct	ccg	ctg	ggt	ccg	ctc	96
Asp	Ala	Trp	Met	Gly	Ile	Pro	Tyr	Ala	Gln	Pro	Pro	Leu	Gly	Pro	Leu	
			20					25					30			
cgg	ttt	cga	cat	ccg	cga	ccc	gcc	gaa	aga	tgg	acc	ggt	gtg	ctg	aac	144
Arg	Phe	Arg	His	Pro	Arg	Pro	Ala	Glu	Arg	Trp	Thr	Gly	Val	Leu	Asn	
		35					40					45				
gcg	acc	aaa	ccg	ccc	aac	tcc	tgc	gtc	cag	atc	gtg	gac	acc	gtg	ttc	192
Ala	Thr	Lys	Pro	Pro	Asn	Ser	Cys	Val	Gln	Ile	Val	Asp	Thr	Val	Phe	
	50					55					60					
ggt	gac	ttc	ccg	ggg	gcc	acc	atg	tgg	aac	ccg	aac	aca	ccg	ctc	tcg	240
Gly	Asp	Phe	Pro	Gly	Ala	Thr	Met	Trp	Asn	Pro	Asn	Thr	Pro	Leu	Ser	
65				70					75						80	
gag	gac	tgt	ctg	tac	atc	aac	gtg	gtc	gtg	cca	cgg	ccc	agg	ccc	aag	288
Glu	Asp	Cys	Leu	Tyr	Ile	Asn	Val	Val	Val	Pro	Arg	Pro	Arg	Pro	Lys	
			85					90						95		
aat	gcc	gcc	gtc	atg	ctg	tgg	atc	ttc	ggg	ggt	agc	ttc	tac	tcc	ggg	336
Asn	Ala	Ala	Val	Met	Leu	Trp	Ile	Phe	Gly	Gly	Ser	Phe	Tyr	Ser	Gly	
			100				105						110			
act	gcc	acg	ctg	gac	gtg	tac	gac	cac	cgg	acg	ctg	gcc	tcg	gag	gag	384
Thr	Ala	Thr	Leu	Asp	Val	Tyr	Asp	His	Arg	Thr	Leu	Ala	Ser	Glu	Glu	
		115					120					125				
aac	gtg	atc	gta	gtt	tcg	ctg	cag	tac	cgt	gtc	gca	agt	ctt	ggt	ttt	432
Asn	Val	Ile	Val	Val	Ser	Leu	Gln	Tyr	Arg	Val	Ala	Ser	Leu	Gly	Phe	
	130					135					140					
ctc	ttc	ctg	ggc	aca	ccg	gag	gca	cc								458
Leu	Phe	Leu	Gly	Thr	Pro	Glu	Ala									
145					150											

<210> 71

<211> 447

<212> DNA

<213> Culex pipiens pipiens strain Barriol (R)

<220>

<221> CDS

<222> (3)..(446)

<400> 71

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Gly	Lys	Ile	Arg	Gly	Thr	Thr	Leu	Glu	Ala	Pro	Ser	Gly	Lys	Lys		
1				5				10						15		
gtg	gac	gca	tgg	atg	ggc	att	ccg	tac	gcg	cag	ccc	ccg	ctg	ggt	ccg	95
Val	Asp	Ala	Trp	Met	Gly	Ile	Pro	Tyr	Ala	Gln	Pro	Pro	Leu	Gly	Pro	
			20					25						30		
ctc	cgg	ttt	cga	cat	ccg	cga	ccc	gcc	gaa	aga	tgg	acc	ggt	gtg	ctg	143
Leu	Arg	Phe	Arg	His	Pro	Arg	Pro	Ala	Glu	Arg	Trp	Thr	Gly	Val	Leu	
			35					40					45			

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aac gcg acc aaa cca ccc aac tcc tgc gtc cag atc gtg gac acc gtg Asn Ala Thr Lys Pro Pro Asn Ser Cys Val Gln Ile Val Asp Thr Val 50 55 60	191
ttc ggt gac ttc ccg ggg gcc acc atg tgg aac ccg aac aca ccc ctc Phe Gly Asp Phe Pro Gly Ala Thr Met Trp Asn Pro Asn Thr Pro Leu 65 70 75	239
tcg gag gac tgt ctg tac atc aac gtg gtc gtg cca agg ccg agg ccc Ser Glu Asp Cys Leu Tyr Ile Asn Val Val Val Pro Arg Pro Arg Pro 80 85 90 95	287
aag aat gcc gct gtc atg ctg tgg atc ttt ggg ggt agc ttc tac tcc Lys Asn Ala Ala Val Met Leu Trp Ile Phe Gly Gly Ser Phe Tyr Ser 100 105 110	335
ggg act gcc acg ttg gac gtg tac gat cat cgg acg ctg gcc tcg gag Gly Thr Ala Thr Leu Asp Val Tyr Asp His Arg Thr Leu Ala Ser Glu 115 120 125	383
gag aac gtg atc gtg gtt tcg ctg cag tac cgt gtc gca agt ctt ggt Glu Asn Val Ile Val Val Ser Leu Gln Tyr Arg Val Ala Ser Leu Gly 130 135 140	431
ttt ctc ttc ctg ggc a Phe Leu Phe Leu Gly 145	447
<210> 72	
<211> 447	
<212> DNA	
<213> Culex pipiens pipiens strain Bleuete (S)	
<220>	
<221> CDS	
<222> (3)..(446)	
<400> 72	
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gtg gac gca tgg atg ggc att ccg tac gcg cag ccc ccg ctg ggt ccg Val Asp Ala Trp Met Gly Ile Pro Tyr Ala Gln Pro Pro Leu Gly Pro 20 25 30	95
ctc cgg ttt cga cat ccg cga ccc gcc gaa aga tgg acc ggt gtg ctg Leu Arg Phe Arg His Pro Arg Pro Ala Glu Arg Trp Thr Gly Val Leu 35 40 45	143
aac gcg acc aaa cca ccc aac tcc tgc gtc cag atc gtg gac acc gtg Asn Ala Thr Lys Pro Pro Asn Ser Cys Val Gln Ile Val Asp Thr Val 50 55 60	191
ttc ggt gac ttc ccg ggg gcc acc atg tgg aac ccg aac aca ccc ctc Phe Gly Asp Phe Pro Gly Ala Thr Met Trp Asn Pro Asn Thr Pro Leu 65 70 75	239
tcg gag gac tgt ctg tac atc aac gtg gtc gtg cca agg ccg agg ccc Ser Glu Asp Cys Leu Tyr Ile Asn Val Val Val Pro Arg Pro Arg Pro 80 85 90 95	287

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s644LISTGB80
aag aat gcc gct gtc atg ctg tgg atc ttt ggg ggt ggc ttc tac tcc 335
Lys Asn Ala Ala Val Met Leu Trp Ile Phe Gly Gly Gly Phe Tyr Ser
100 105 110

ggg act gcc acg ttg gac gtg tac gat cat cgg acg ctg gcc tcg gag 383
Gly Thr Ala Thr Leu Asp Val Tyr Asp His Arg Thr Leu Ala Ser Glu
115 120 125

gag aac gtg atc gtg gtt tcg ctg cag tac cgt gtc gca agt ctt ggt 431
Glu Asn Val Ile Val Val Ser Leu Gln Tyr Arg Val Ala Ser Leu Gly
130 135 140

ttt ctc ttc ctg ggc a 447
Phe Leu Phe Leu Gly
145

<210> 73
<211> 448
<212> DNA
<213> Culex pipiens pipiens strain Bruges B (S)

<220>
<221> CDS
<222> -(3)..(446)

<400> 73
ag ggc aaa atc cgt gga acg aca ctg gaa gcg cca agt gga aag aag 47
Gly Lys Ile Arg Gly Thr Thr Leu Glu Ala Pro Ser Gly Lys Lys
1 5 10

gtg gac gca tgg atg ggc att ccg tac gcg cag ccc ccg ctg ggt ccg 95
Val Asp Ala Trp Met Gly Ile Pro Tyr Ala Gln Pro Pro Leu Gly Pro
20 25 30

ctc cgg ttt cga cat ccg cga ccc gcc gaa aga tgg acc ggt gtg ctg 143
Leu Arg Phe Arg His Pro Arg Pro Ala Glu Arg Trp Thr Gly Val Leu
35 40 45

aac gcg acc aaa cca ccc aac tcc tgc gtc cag atc gtg gac acc gtg 191
Asn Ala Thr Lys Pro Pro Asn Ser Cys Val Gln Ile Val Asp Thr Val
50 55 60

ttc ggt gac ttc ccg ggg gcc acc atg tgg aac ccg aac aca ccc ctc 239
Phe Gly Asp Phe Pro Gly Ala Thr Met Trp Asn Pro Asn Thr Pro Leu
65 70 75

tcg gag gac tgt ctg tac atc aac gtg gtc gtg cca agg ccg agg ccc 287
Ser Glu Asp Cys Leu Tyr Ile Asn Val Val Val Pro Arg Pro Arg Pro
80 85 90 95

aag aat gcc gct gtc atg ctg tgg atc ttt ggg ggt ggc ttc tac tcc 335
Lys Asn Ala Ala Val Met Leu Trp Ile Phe Gly Gly Gly Phe Tyr Ser
100 105 110

ggg act gcc acg ttg gac gtg tac gat cat cgg acg ctg gcc tcg gag 383
Gly Thr Ala Thr Leu Asp Val Tyr Asp His Arg Thr Leu Ala Ser Glu
115 120 125

gag aac gtg atc gtg gtt tcg ctg cag tac cgt gtc gca agt ctt ggt 431
Glu Asn Val Ile Val Val Ser Leu Gln Tyr Arg Val Ala Ser Leu Gly
130 135 140

ttt ctc ttc ctg ggc ac 448

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s644LISTGB80

Phe Leu Phe Leu Gly  
145

<210> 74  
<211> 447  
<212> DNA  
<213> Culex pipiens pipiens strain Heteren (S)

<220>  
<221> CDS  
<222> (3)..(446)

<400> 74  
ag ggc aaa atc cgt gga acg aca ctg gaa gcg cca agt gga aag aag 47  
Gly Lys Ile Arg Gly Thr Thr Leu Glu Ala Pro Ser Gly Lys Lys  
1 5 10 15  
gtg gac gca tgg atg ggc att ccg tac gcg cag ccc ccg ctg ggt ccg 95  
Val Asp Ala Trp Met Gly Ile Pro Tyr Ala Gln Pro Pro Leu Gly Pro  
20 25 30  
ctc cgg ttt cga cat cca cga ccc gcc gaa aga tgg acc ggt gtg ctg 143  
Leu Arg Phe Arg His Pro Arg Pro Ala Glu Arg Trp Thr Gly Val Leu  
35 40 45  
aac gcg acc aaa cca ccc aac tcc tgc gtc cag atc gtg gac aca gtg 191  
Asn Ala Thr Lys Pro Pro Asn Ser Cys Val Gln Ile Val Asp Thr Val  
50 55 60  
ttc ggt gac ttc ccg ggg gcc acc atg tgg aac ccg aac aca ccc ctc 239  
Phe Gly Asp Phe Pro Gly Ala Thr Met Trp Asn Pro Asn Thr Pro Leu  
65 70 75  
tcg gag gac tgt ctg tac atc aac gtg gtc gtg cca agg ccg agg ccc 287  
Ser Glu Asp Cys Leu Tyr Ile Asn Val Val Val Pro Arg Pro Arg Pro  
80 85 90 95  
aag aat gcc gct gtc atg ctg tgg atc ttt ggg ggt ggc ttc tac tcc 335  
Lys Asn Ala Ala Val Met Leu Trp Ile Phe Gly Gly Gly Phe Tyr Ser  
100 105 110  
ggg act gcc acg ttg gac gtg tac gac cat cgg acg ctg gcc tcg gaa 383  
Gly Thr Ala Thr Leu Asp Val Tyr Asp His Arg Thr Leu Ala Ser Glu  
115 120 125  
gag aac gtg atc gtg gtt tcg ctg cag tac cgt gtc gca agt ctt ggt 431  
Glu Asn Val Ile Val Val Ser Leu Gln Tyr Arg Val Ala Ser Leu Gly  
130 135 140  
ttt ctc ttc ctg ggc a 447  
Phe Leu Phe Leu Gly  
145

<210> 75  
<211> 450  
<212> DNA  
<213> Culex pipiens quinquefasciatus strain Ling (S)

<220>  
<221> CDS  
<222> (1)..(447)

<400> 75

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Gln Gly Lys Ile Arg Gly Thr Thr Leu Glu Ala Pro Ser Gly Lys Lys	
1 5 10 15	
gtg gac gcc tgg atg ggc att ccg tac gcg cag ccc ccg ctg ggt ccg	96
Val Asp Ala Trp Met Gly Ile Pro Tyr Ala Gln Pro Pro Leu Gly Pro	
20 25 30	
ctc cgg ttt cga cat ccg cga ccc gcc gaa aga tgg acc ggt gtg ctg	144
Leu Arg Phe Arg His Pro Arg Pro Ala Glu Arg Trp Thr Gly Val Leu	
35 40 45	
aac gcg acc aaa ccg ccc aac tcc tgc gtc cag atc gtg gac acc gtg	192
Asn Ala Thr Lys Pro Pro Asn Ser Cys Val Gln Ile Val Asp Thr Val	
50 55 60	
ttc ggt gac ttc ccg ggg gcc acc atg tgg aac ccg aac aca ccg ctc	240
Phe Gly Asp Phe Pro Gly Ala Thr Met Trp Asn Pro Asn Thr Pro Leu	
65 70 75 80	
tgc gag gac tgt ctg tac atc aac gtg gtc gtg cca cgg ccc agg ccc	288
Ser Glu Asp Cys Leu Tyr Ile Asn Val Val Val Pro Arg Pro Arg Pro	
85 90 95	
aag aat gcc gcc gtc atg ctg tgg atc ttc ggg ggt ggc ttc tac tcc	336
Lys Asn Ala Ala Val Met Leu Trp Ile Phe Gly Gly Gly Phe Tyr Ser	
100 105 110	
ggg act gcc acg ctg gac gtg tat gac cac cgg acg ctg gcc tcg gag	384
Gly Thr Ala Thr Leu Asp Val Tyr Asp His Arg Thr Leu Ala Ser Glu	
115 120 125	
gag aac gtg atc gta gtt tcg ctg cag tac cgt gtc gca agt ctt ggt	432
Glu Asn Val Ile Val Val Ser Leu Gln Tyr Arg Val Ala Ser Leu Gly	
130 135 140	
ttt ctc ttc ctg ggc aca	450
Phe Leu Phe Leu Gly	
145	

<210> 76

<211> 448

<212> DNA

<213> Culex pipiens quinquefasciatus strain Mao (S)

<220>

<221> CDS

<222> (3)..(446)

<400> 76

ac ggc aaa atc cgt gga acg aca ctg gaa gcg cct agt gga aag aag	47
Gly Lys Ile Arg Gly Thr Thr Leu Glu Ala Pro Ser Gly Lys Lys	
1 5 10 15	
gtg gac gca tgg atg ggc att ccg tac gcg cag ccc ccg ctg ggt ccg	95
Val Asp Ala Trp Met Gly Ile Pro Tyr Ala Gln Pro Pro Leu Gly Pro	
20 25 30	
ctc cgg ttt cga cat ccg cga ccc gcc gaa aga tgg acc ggt gtg ctg	143
Leu Arg Phe Arg His Pro Arg Pro Ala Glu Arg Trp Thr Gly Val Leu	
35 40 45	
aac gcg acc aaa ccg ccc aac tcc tgc gtc cag atc gtg gac acc gtg	191

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Asn	Ala	Thr	Lys	Pro	Pro	Asn	Ser	Cys	Val	Gln	Ile	Val	Asp	Thr	Val	
		50					55					60				
ttc	ggt	gac	ttc	ccg	ggg	gcc	acc	atg	tgg	aac	ccg	aac	aca	ccg	ctc	239
Phe	Gly	Asp	Phe	Pro	Gly	Ala	Thr	Met	Trp	Asn	Pro	Asn	Thr	Pro	Leu	
	65					70				75						
tcg	gag	gac	tgt	ctg	tac	atc	aac	gtg	gtc	gtg	cca	cgg	ccc	agg	ccc	287
Ser	Glu	Asp	Cys	Leu	Tyr	Ile	Asn	Val	Val	Val	Pro	Arg	Pro	Arg	Pro	
	80				85					90					95	
aag	aat	gcc	gcc	gtc	atg	ctg	tgg	atc	ttc	ggg	ggt	ggc	ttc	tac	tcc	335
Lys	Asn	Ala	Ala	Val	Met	Leu	Trp	Ile	Phe	Gly	Gly	Gly	Phe	Tyr	Ser	
				100					105					110		
ggg	act	gcc	acg	ctg	gac	gtg	tac	gac	cac	cgg	acg	ctg	gcc	tcg	gag	383
Gly	Thr	Ala	Thr	Leu	Asp	Val	Tyr	Asp	His	Arg	Thr	Leu	Ala	Ser	Glu	
			115					120					125			
gag	aac	gtg	atc	gta	gtt	tcg	ctg	cag	tac	cgt	gtc	gca	agt	ctt	ggt	431
Glu	Asn	Val	Ile	Val	Val	Ser	Leu	Gln	Tyr	Arg	Val	Ala	Ser	Leu	Gly	
		130					135					140				
ttt	ctc	ttc	ctg	ggc	ac											448
Phe	Leu	Phe	Leu	Gly												
	145															

<210> -77

<211> 433

<212> DNA

<213> Culex pipiens quinquefasciatus strain TemR (S)

<220>

<221> CDS

<222> (1)..(432)

<400> 77

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Lys	Ile	Arg	Gly	Thr	Thr	Leu	Glu	Ala	Pro	Ser	Gly	Lys	Lys	Val	Asp	
	1				5				10					15		
gca	tgg	atg	ggc	att	ccg	tac	gcg	cag	cct	ccg	ctg	ggt	ccg	ctc	cgg	96
Ala	Trp	Met	Gly	Ile	Pro	Tyr	Ala	Gln	Pro	Pro	Leu	Gly	Pro	Leu	Arg	
			20					25					30			
ttt	cga	cat	ccg	cga	ccc	gcc	gaa	aga	tgg	acc	ggt	gtg	ctg	aac	gcg	144
Phe	Arg	His	Pro	Arg	Pro	Ala	Glu	Arg	Trp	Thr	Gly	Val	Leu	Asn	Ala	
		35					40					45				
acc	aaa	cca	ccc	aac	tcc	tgc	gtc	cag	atc	gtg	gac	acc	gtg	ttc	ggt	192
Thr	Lys	Pro	Pro	Asn	Ser	Cys	Val	Gln	Ile	Val	Asp	Thr	Val	Phe	Gly	
	50					55					60					
gac	ttc	ccg	ggg	gcc	acc	atg	tgg	aac	ccg	aac	aca	ccg	ctc	tcg	gag	240
Asp	Phe	Pro	Gly	Ala	Thr	Met	Trp	Asn	Pro	Asn	Thr	Pro	Leu	Ser	Glu	
	65				70				75					80		
gac	tgt	ctg	tac	atc	aac	gtg	gtc	gtg	cca	cgg	ccc	agg	ccc	aag	aat	288
Asp	Cys	Leu	Tyr	Ile	Asn	Val	Val	Val	Pro	Arg	Pro	Arg	Pro	Lys	Asn	
				85					90					95		
gcc	gcc	gtc	atg	ctg	tgg	atc	ttc	ggg	ggt	ggc	ttc	tac	tcc	ggg	act	336
Ala	Ala	Val	Met	Leu	Trp	Ile	Phe	Gly	Gly	Gly	Phe	Tyr	Ser	Gly	Thr	

s644LISTGB80

100	105	110	
gcc acg ctg gac gtg tac gac cac cgg acg ctg acc tcg gag gag aac			384
Ala Thr Leu Asp Val Tyr Asp His Arg Thr Leu Thr Ser Glu Glu Asn			
115	120	125	
gtg atc gta gtt tcg ctg cag tac cgt gtc gca agt ctt ggt ttt ctc t			433
Val Ile Val Val Ser Leu Gln Tyr Arg Val Ala Ser Leu Gly Phe Leu			
130	135	140	
<210> 78			
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<212> DNA			
<213> Culex torrentium strain Uppsala			
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Gly Lys Ile Arg Gly Thr Thr Leu Glu Ala Pro Ser Gly Lys Lys			
1	5	10	15
gtg gac gca tgg atg ggc att ccg tac gcg cag cct ccg ctg ggt ccg			95
Val Asp Ala Trp Met Gly Ile Pro Tyr Ala Gln Pro Pro Leu Gly Pro			
20	25	30	
ctt cgg ttt cga cat cca cga ccc gcc gaa aga tgg acc ggt gtg ctg			143
Leu Arg Phe Arg His Pro Arg Pro Ala Glu Arg Trp Thr Gly Val Leu			
35	40	45	
aac gcg acc aaa cca ccc aac tcc tgc gtc cag atc gtc gac acc gtg			191
Asn Ala Thr Lys Pro Pro Asn Ser Cys Val Gln Ile Val Asp Thr Val			
50	55	60	
ttc ggt gac ttc ccg ggg gcc acc atg tgg aac ccg aac aca ccc ctc			239
Phe Gly Asp Phe Pro Gly Ala Thr Met Trp Asn Pro Asn Thr Pro Leu			
65	70	75	
tcg gaa gac tgt ctg tac atc aac gtt gtg gtg cca ccg ccg agg ccc			287
Ser Glu Asp Cys Leu Tyr Ile Asn Val Val Val Pro Arg Pro Arg Pro			
80	85	90	95
aag aat gcc gcc gtc atg ctg tgg atc ttc ggg ggt gga ttc tac tcc			335
Lys Asn Ala Ala Val Met Leu Trp Ile Phe Gly Gly Gly Phe Tyr Ser			
100	105	110	
ggg acc gcc acg ctg gac gtg tac gac cac cgg acg ctg gcc tcg gag			383
Gly Thr Ala Thr Leu Asp Val Tyr Asp His Arg Thr Leu Ala Ser Glu			
115	120	125	
gag aac gtg atc gtg gtt tcg ctg cag tac cgt gtc gca agt ctt ggt			431
Glu Asn Val Ile Val Val Ser Leu Gln Tyr Arg Val Ala Ser Leu Gly			
130	135	140	
ttt ctc ttc ctg ggc ac			448
Phe Leu Phe Leu Gly			
145			
<210> 79			
<211> 448			
<212> DNA			

## s644LISTGB80

&lt;213&gt; Culex pipiens quinquefasciatus strain Trans (S)

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (3)..(446)

&lt;400&gt; - 79

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ag ggc aaa atc cgt gga acg aca ctg gaa gcg cct agt gga aag aag      47
  Gly Lys Ile Arg Gly Thr Thr Leu Glu Ala Pro Ser Gly Lys Lys
    1          5          10          15

gtg gac gca tgg atg ggc att ccg tac gcg cag cct ccg ctg ggt ccg      95
Val Asp Ala Trp Met Gly Ile Pro Tyr Ala Gln Pro Pro Leu Gly Pro
                20          25          30

ctc cgg ttt cga cat ccg cga ccc gcc gaa aga tgg acc ggt gtg ctg     143
Leu Arg Phe Arg His Pro Arg Pro Ala Glu Arg Trp Thr Gly Val Leu
                35          40          45

aac gcg acc aaa cca ccc aac tcc tgc gtc cag atc gtg gac acc gtg     191
Asn Ala Thr Lys Pro Pro Asn Ser Cys Val Gln Ile Val Asp Thr Val
                50          55          60

ttc ggt gac ttc ccg ggg gcc acc atg tgg aac ccg aac aca ccg ctc     239
Phe Gly Asp Phe Pro Gly Ala Thr Met Trp Asn Pro Asn Thr Pro Leu
    65          70          75

tcg gag gac tgt ctg tac atc aac gtg gtc gtg cca cgg ccc agg ccc     287
Ser Glu Asp Cys Leu Tyr Ile Asn Val Val Val Pro Arg Pro Arg Pro
    80          85          90          95

aag aat gcc gcc gtc atg ctg tgg atc ttc ggg ggt ggc ttc tac tcc     335
Lys Asn Ala Ala Val Met Leu Trp Ile Phe Gly Gly Gly Phe Tyr Ser
                100          105          110

ggg act gcc acg ctg gac gtg tac gac cac cgg acg ctg acc tcg gag     383
Gly Thr Ala Thr Leu Asp Val Tyr Asp His Arg Thr Leu Thr Ser Glu
                115          120          125

gag aac gtg atc gta gtt tcg ctg cag tac cgt gtc gca agt ctt ggt     431
Glu Asn Val Ile Val Val Ser Leu Gln Tyr Arg Val Ala Ser Leu Gly
                130          135          140

ttt ctc ttc ctg ggc ac                                           448
Phe Leu Phe Leu Gly
    145

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&lt;210&gt; 80

&lt;211&gt; 412

&lt;212&gt; DNA

&lt;213&gt; Culex pipiens quinquefasciatus strain BED (S)

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1)..(411)

&lt;400&gt; 80

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aca ctg gaa gcg cct agt gga aag aag gtg gac gca tgg atg ggc att      48
Thr Leu Glu Ala Pro Ser Gly Lys Lys Val Asp Ala Trp Met Gly Ile
    1          5          10          15

ccg tac gcg cag cct ccg ctg ggt ccg ctc cgg ttt cga cat ccg cga      96
Pro Tyr Ala Gln Pro Pro Leu Gly Pro Leu Arg Phe Arg His Pro Arg
                50

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s644LISTGB80

20	25	30	
ccc gcc gaa aga tgg acc ggt gtg ctg aac gcg acc aaa cca ccc aac	Pro Ala Glu Arg Trp Thr Gly Val Leu Asn Ala Thr Lys Pro Pro Asn	144	
35	40	45	
tcc tgc gtc cag atc gtg gac acc gtg ttc ggt gac ttc ccg ggg gcc	Ser Cys Val Gln Ile Val Asp Thr Val Phe Gly Asp Phe Pro Gly Ala	192	
50	55	60	
acc atg tgg aac ccg aac aca ccg ctc tcg gag gac tgt ctg tac atc	Thr Met Trp Asn Pro Asn Thr Pro Leu Ser Glu Asp Cys Leu Tyr Ile	240	
65	70	75	80
aac gtg gtc gtg cca cgg ccc agg ccc aag aat gcc gcc gtc atg ctg	Asn Val Val Val Pro Arg Pro Arg Pro Lys Asn Ala Ala Val Met Leu	288	
85	90	95	
tgg atc ttc ggg ggt ggc ttc tac tcc ggg act gcc acg ctg gac gtg	Trp Ile Phe Gly Gly Phe Tyr Ser Gly Thr Ala Thr Leu Asp Val	336	
100	105	110	
tac gac cac cgg acg ctg gcc tcg gag gag aac gtg atc gta gtt tcg	Tyr Asp His Arg Thr Leu Ala Ser Glu Glu Asn Val Ile Val Val Ser	384	
115	120	125	
ctg cag tac cgt gtc gca agt ctt ggt t	Leu Gln Tyr Arg Val Ala Ser Leu Gly	412	
130	135		
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<211> 437			
<212> DNA			
<213> Culex pipiens quinquefasciatus strain BSQ (S)			
<220>			
<221> CDS			
<222> (3)..(434)			
<400> 81			
ag ggc aaa atc cgt gga acg aca ctg gaa gcg cct agt gga aag aag	Gly Lys Ile Arg Gly Thr Thr Leu Glu Ala Pro Ser Gly Lys Lys	47	
1	5	10	15
gtg gac gcc tgg atg ggc att ccg tac gcg cag ccc ccg ctg ggt ccg	Val Asp Ala Trp Met Gly Ile Pro Tyr Ala Gln Pro Pro Leu Gly Pro	95	
20	25	30	
ctc cgg ttt cga cat ccg cga ccc gcc gaa aga tgg acc ggt gtg ctg	Leu Arg Phe Arg His Pro Arg Pro Ala Glu Arg Trp Thr Gly Val Leu	143	
35	40	45	
aac gcg acc aaa ccg ccc aac tcc tgc gtc cag atc gtg gac acc gtg	Asn Ala Thr Lys Pro Pro Asn Ser Cys Val Gln Ile Val Asp Thr Val	191	
50	55	60	
ttc ggt gac ttc ccg ggg gcc acc atg tgg aac ccg aac aca ccg ctc	Phe Gly Asp Phe Pro Gly Ala Thr Met Trp Asn Pro Asn Thr Pro Leu	239	
65	70	75	
tcg gag gac tgt ctg tac atc aac gtg gtc gtg cca cgg ccc agg ccc	Ser Glu Asp Cys Leu Tyr Ile Asn Val Val Val Pro Arg Pro Arg Pro	287	
80	85	90	95

## s644LISTGB80

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aag aat gcc gcc gtc atg ctg tgg atc ttc ggg ggt ggc ttc tac tcc 335
Lys Asn Ala Ala Val Met Leu Trp Ile Phe Gly Gly Gly Phe Tyr Ser
100 105 110

ggg act gcc acg ctg gac gtg tac gac cac cgg acg ctg gcc tcg gag 383
Gly Thr Ala Thr Leu Asp Val Tyr Asp His Arg Thr Leu Ala Ser Glu
115 120 125

gag aac gtg atc gta gtt tcg ctg cag tac cgt gtc gca agt ctt ggg 431
Glu Asn Val Ile Val Val Ser Leu Gln Tyr Arg Val Ala Ser Leu Gly
130 135 140

ttt ctc 437
Phe

<210> 82
<211> 414
<212> DNA
<213> Culex pipiens quinquefasciatus strain Brazza (S)

<220>
<221> CDS
<222> -(2)..(412)

<400> 82
a ctg gaa gcg cct agt gga aag aag gtg gac gcc tgg atg ggc att ccg 49
Leu Glu Ala Pro Ser Gly Lys Lys Val Asp Ala Trp Met Gly Ile Pro
1 5 10 15

tac gcg cag ccc ccg ctg ggt ccg ctc cgg ttt cga cat ccg cga ccc 97
Tyr Ala Gln Pro Pro Leu Gly Pro Leu Arg Phe Arg His Pro Arg Pro
20 25 30

gcc gaa aga tgg acc ggt gtg ctg aac gcg acc aaa ccg ccc aac tcc 145
Ala Glu Arg Trp Thr Gly Val Leu Asn Ala Thr Lys Pro Pro Asn Ser
35 40 45

tgc gtc cag atc gtg gac acc gtg ttc ggt gac ttc ccg ggg gcc acc 193
Cys Val Gln Ile Val Asp Thr Val Phe Gly Asp Phe Pro Gly Ala Thr
50 55 60

atg tgg aac ccg aac aca ccg ctc tcg gag gac tgt ctg tac atc aac 241
Met Trp Asn Pro Asn Thr Pro Leu Ser Glu Asp Cys Leu Tyr Ile Asn
65 70 75 80

gtg gtc gtg cca cgg ccc agg ccc aag aat gcc gcc gtc atg ctg tgg 289
Val Val Val Pro Arg Pro Arg Pro Lys Asn Ala Ala Val Met Leu Trp
85 90 95

atc ttc ggg ggt ggc ttc tac tcc ggg act gcc acg ctg gac gtg tac 337
Ile Phe Gly Gly Gly Phe Tyr Ser Gly Thr Ala Thr Leu Asp Val Tyr
100 105 110

gac cac cgg acg ctg gcc tcg gag gag aac gtg atc gta gtt tcg ctg 385
Asp His Arg Thr Leu Ala Ser Glu Glu Asn Val Ile Val Val Ser Leu
115 120 125

cag tac cgt gtc gca agt ctt ggg ttt ct 414
Gln Tyr Arg Val Ala Ser Leu Gly Phe
130 135

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&lt;210&gt; 83

s644LISTGB80

<211> 437

<212> DNA

<213> Culex pipiens quinquefasciatus strain Bouake (R)

<220>

<221> CDS

<222> (3)..(434)

<400> 83

ag ggc aaa atc cgt gga acg aca ctg gaa gcg cct agt gga aag aag 47  
Gly Lys Ile Arg Gly Thr Thr Leu Glu Ala Pro Ser Gly Lys Lys  
1 5 10 15

gtg gac gca tgg atg ggc att ccg tac gcg cag ccc ccg ctg ggt ccg 95  
Val Asp Ala Trp Met Gly Ile Pro Tyr Ala Gln Pro Pro Leu Gly Pro  
20 25 30

ctc cgg ttt cga cat ccg cga ccc gcc gaa aga tgg acc ggt gtg ctg 143  
Leu Arg Phe Arg His Pro Arg Pro Ala Glu Arg Trp Thr Gly Val Leu  
35 40 45

aac gcg acc aaa ccg ccc aac tcc tgc gtc cag atc gtg gac acc gtg 191  
Asn Ala Thr Lys Pro Pro Asn Ser Cys Val Gln Ile Val Asp Thr Val  
50 55 60

ttc ggt gac ttc ccg ggg gcc acc atg tgg aac ccg aac aca ccg ctc 239  
Phe Gly Asp Phe Pro Gly Ala Thr Met Trp Asn Pro Asn Thr Pro Leu  
65 70 75

tcg gag gac tgt ctg tac atc aac gtg gtc gtg cca cgg ccc agg ccc 287  
Ser Glu Asp Cys Leu Tyr Ile Asn Val Val Val Pro Arg Pro Arg Pro  
80 85 90 95

aag aat gcc gcc gtc atg ctg tgg atc ttc ggg ggt ggc ttc tac tcc 335  
Lys Asn Ala Ala Val Met Leu Trp Ile Phe Gly Gly Gly Phe Tyr Ser  
100 105 110

ggg act gcc acg ctg gac gtg tac gac cac cgg acg ctg gcc tcg gag 383  
Gly Thr Ala Thr Leu Asp Val Tyr Asp His Arg Thr Leu Ala Ser Glu  
115 120 125

gag aac gtg atc gta gtt tcg ctg cag tac cgt gtc gca agt ctt ggt 431  
Glu Asn Val Ile Val Val Ser Leu Gln Tyr Arg Val Ala Ser Leu Gly  
130 135 140

ttt ctc 437  
Phe

<210> 84

<211> 416

<212> DNA

<213> Culex pipiens quinquefasciatus strain Thai (S)

<220>

<221> CDS

<222> (1)..(414)

<400> 84

aca ctg gaa gcg cct agt gga aag aag gtg gac gcc tgg atg ggc att 48  
Thr Leu Glu Ala Pro Ser Gly Lys Lys Val Asp Ala Trp Met Gly Ile  
1 5 10 15

ccg tac gcg cag ccc ccg ctg ggt ccg ctc cgg ttt cga cat ccg cga 96  
Pro Tyr Ala Gln Pro Pro Leu Gly Pro Leu Arg Phe Arg His Pro Arg  
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## s644LISTGB80

20	25	30	
ccc gcc gaa aga tgg acc ggt gtg ctg aac gcg acc aaa ccg ccc aac Pro Ala Glu Arg Trp Thr Gly Val Leu Asn Ala Thr Lys Pro Pro Asn 35 40 45			144
tcc tgc gtc cag atc gtg gac acc gtg ttc ggt gac ttc ccg ggg gcc Ser Cys Val Gln Ile Val Asp Thr Val Phe Gly Asp Phe Pro Gly Ala 50 55 60			192
acc atg tgg aac ccg aac aca ccg ctc tcg gag gac tgt ctg tac atc Thr Met Trp Asn Pro Asn Thr Pro Leu Ser Glu Asp Cys Leu Tyr Ile 65 70 75 80			240
aac gtg gtc gtg cca cgg ccc agg ccc aag aat gcc gcc gtc atg ctg Asn Val Val Val Pro Arg Pro Arg Pro Lys Asn Ala Ala Val Met Leu 85 90 95			288
tgg atc ttc ggg ggt ggc ttc tac tcc ggg act gcc acg ctg gac gtg Trp Ile Phe Gly Gly Phe Tyr Ser Gly Thr Ala Thr Leu Asp Val 100 105 110			336
tac gac cac cgg acg ctg gcc tcg gag gag aac gtg atc gta gtt tcg Tyr Asp His Arg Thr Leu Ala Ser Glu Glu Asn Val Ile Val Val Ser 115 120 125			384
ctg cag tac cgt gtc gca agt ctt ggg ttt ct Leu Gln Tyr Arg Val Ala Ser Leu Gly Phe 130 135			416
<210> 85			
<211> 426			
<212> DNA			
<213> Culex pipiens quinquefasciatus strain Madurai (S)			
<220>			
<221> CDS			
<222> (3)..(425)			
<400> 85			
ca ctg gaa gcg cct agt gga aag aag gtg gac gca tgg atg ggc att Leu Glu Ala Pro Ser Gly Lys Lys Val Asp Ala Trp Met Gly Ile 1 5 10 15			47
ccg tac gcg cag ccc ccg ctg ggt ccg ctc cgg ttt cga cat ccg cga Pro Tyr Ala Gln Pro Pro Leu Gly Pro Leu Arg Phe Arg His Pro Arg 20 25 30			95
ccc gcc gaa aga tgg acc ggt gtg ctg aac gca acc aaa ccg ccc aac Pro Ala Glu Arg Trp Thr Gly Val Leu Asn Ala Thr Lys Pro Pro Asn 35 40 45			143
tcc tgc gtc cag atc gtg gac acc gtg ttc ggt gac ttc ccg ggg gcc Ser Cys Val Gln Ile Val Asp Thr Val Phe Gly Asp Phe Pro Gly Ala 50 55 60			191
acc atg tgg aac ccg aac aca ccg ctc tcg gag gac tgt ctg tac atc Thr Met Trp Asn Pro Asn Thr Pro Leu Ser Glu Asp Cys Leu Tyr Ile 65 70 75 80			239
aac gtg gtc gtg cca cgg ccc agg ccc aag aat gcc gcc gtc atg ctg Asn Val Val Val Pro Arg Pro Arg Pro Lys Asn Ala Ala Val Met Leu 80 85 90 95			287

## s644LISTGB80

tgg	atc	ttc	ggg	ggt	ggc	ttc	tac	tcc	ggg	act	gcc	acg	ctg	gac	gtg	335
Trp	Ile	Phe	Gly	Gly	Gly	Phe	Tyr	Ser	Gly	Thr	Ala	Thr	Leu	Asp	Val	
			100						105					110		

tac	gac	cac	cgg	acg	ctg	gcc	tcg	gag	gag	aac	gtg	atc	gta	gtt	tcg	383
Tyr	Asp	His	Arg	Thr	Leu	Ala	Ser	Glu	Glu	Asn	Val	Ile	Val	Val	Ser	
			115					120					125			

ctg	cag	tac	cgt	gtc	gca	agt	ctt	ggg	ttt	ctc	ttc	ctg	ggc	a		426
Leu	Gln	Tyr	Arg	Val	Ala	Ser	Leu	Gly	Phe	Leu	Phe	Leu	Gly			
		130					135					140				

&lt;210&gt; 86

&lt;211&gt; 423

&lt;212&gt; DNA

&lt;213&gt; Culex pipiens quinquefasciatus strain Recife (R)

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1)..(423)

&lt;400&gt; 86

ctg	gaa	gcg	cct	agc	gga	aag	aag	gtg	gac	gca	tgg	atg	ggc	att	ccg	48
Leu	Glu	Ala	Pro	Ser	Gly	Lys	Lys	Val	Asp	Ala	Trp	Met	Gly	Ile	Pro	
1				5					10					15		

tac	gcg	cag	cct	ccg	ctg	ggt	ccg	ctc	cgg	ttt	cga	cat	ccg	cga	ccc	96
Tyr	Ala	Gln	Pro	Pro	Leu	Gly	Pro	Leu	Arg	Phe	Arg	His	Pro	Arg	Pro	
			20					25					30			

gcc	gaa	aga	tgg	acc	ggt	gtg	ctg	aac	gcg	acc	aaa	ccg	ccc	aac	tcc	144
Ala	Glu	Arg	Trp	Thr	Gly	Val	Leu	Asn	Ala	Thr	Lys	Pro	Pro	Asn	Ser	
		35					40					45				

tgc	gtc	cag	atc	gtg	gac	acc	gtg	ttc	ggt	gac	ttc	ccg	ggg	gcc	acc	192
Cys	Val	Gln	Ile	Val	Asp	Thr	Val	Phe	Gly	Asp	Phe	Pro	Gly	Ala	Thr	
	50				55					60						

atg	tgg	aac	ccg	aac	aca	ccg	ctc	tcg	gag	gac	tgt	ctg	tac	atc	aac	240
Met	Trp	Asn	Pro	Asn	Thr	Pro	Leu	Ser	Glu	Asp	Cys	Leu	Tyr	Ile	Asn	
65					70				75					80		

gtg	gtc	gtg	cca	cgg	ccc	agg	ccc	aag	aat	gcc	gcc	gtc	atg	ctg	tgg	288
Val	Val	Val	Pro	Arg	Pro	Arg	Pro	Lys	Asn	Ala	Ala	Val	Met	Leu	Trp	
				85				90						95		

atc	ttc	ggg	ggt	agc	ttc	tac	tcc	ggg	act	gcc	acg	ctg	gac	gtg	tac	336
Ile	Phe	Gly	Gly	Ser	Phe	Tyr	Ser	Gly	Thr	Ala	Thr	Leu	Asp	Val	Tyr	
			100					105					110			

gac	cac	cgg	acg	ctg	gcc	tcg	gag	gag	aac	gtg	atc	gta	gtt	tcg	ctg	384
Asp	His	Arg	Thr	Leu	Ala	Ser	Glu	Glu	Asn	Val	Ile	Val	Val	Ser	Leu	
		115					120					125				

cag	tac	cgt	gtc	gca	agt	ctt	ggt	ttt	ctc	ttc	ctg	ggc				423
Gln	Tyr	Arg	Val	Ala	Ser	Leu	Gly	Phe	Leu	Phe	Leu	Gly				
	130					135					140					

&lt;210&gt; 87

&lt;211&gt; 416

&lt;212&gt; DNA

## s644LISTGB80

&lt;213&gt; Culex pipiens quinquefasciatus strain Brésil (S)

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (3)..(413)

&lt;400&gt; 87

ca	ctg	gaa	gcg	cct	agt	gga	aag	aag	gtg	gac	gca	tgg	atg	ggc	att	47
Leu	Glu	Ala	Pro	Ser	Gly	Lys	Lys	Val	Asp	Ala	Trp	Met	Gly	Ile		
1				5					10					15		
ccg	tac	gcg	cag	ccc	ccg	ctg	ggt	ccg	ctc	cgg	ttt	cga	cat	ccg	cga	95
Pro	Tyr	Ala	Gln	Pro	Pro	Leu	Gly	Pro	Leu	Arg	Phe	Arg	His	Pro	Arg	
				20					25					30		
ccc	gcc	gaa	aga	tgg	acc	ggt	gtg	ctg	aac	gcg	acc	aaa	ccg	ccc	aac	143
Pro	Ala	Glu	Arg	Trp	Thr	Gly	Val	Leu	Asn	Ala	Thr	Lys	Pro	Pro	Asn	
			35					40					45			
tcc	tgc	gtc	cag	atc	gtg	gac	acc	gtg	ttc	ggt	gac	ttc	ccg	ggg	gcc	191
Ser	Cys	Val	Gln	Ile	Val	Asp	Thr	Val	Phe	Gly	Asp	Phe	Pro	Gly	Ala	
		50				55						60				
acc	atg	tgg	aac	ccg	aac	aca	ccg	ctc	tcg	gag	gac	tgt	ctg	tac	atc	239
Thr	Met	Trp	Asn	Pro	Asn	Thr	Pro	Leu	Ser	Glu	Asp	Cys	Leu	Tyr	Ile	
	65					70					75					
aac	gtg	gtc	gtg	cca	cgg	ccc	agg	ccc	aag	aat	gcc	gcc	gtc	atg	ctg	287
Asn	Val	Val	Val	Pro	Arg	Pro	Arg	Pro	Lys	Asn	Ala	Ala	Val	Met	Leu	
80					85					90					95	
tgg	atc	ttc	ggg	ggt	ggc	ttc	tat	tcc	ggg	act	gcc	acg	ctg	gac	gtg	335
Trp	Ile	Phe	Gly	Gly	Gly	Phe	Tyr	Ser	Gly	Thr	Ala	Thr	Leu	Asp	Val	
			100						105					110		
tac	gac	cac	cgg	acg	ctg	gcc	tcg	gag	gag	aac	gtg	atc	gta	gtt	tcg	383
Tyr	Asp	His	Arg	Thr	Leu	Ala	Ser	Glu	Glu	Asn	Val	Ile	Val	Val	Ser	
			115					120					125			
ctg	cag	tac	cgt	gtc	gca	agt	ctt	ggg	ttt	ctc						416
Leu	Gln	Tyr	Arg	Val	Ala	Ser	Leu	Gly	Phe							
		130					135									

&lt;210&gt; 88

&lt;211&gt; 418

&lt;212&gt; DNA

&lt;213&gt; Culex pipiens quinquefasciatus strain Moorea (S)

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1)..(417)

&lt;400&gt; 88

aca	ctg	gaa	gcg	cct	agt	gga	aag	aag	gtg	gac	gca	tgg	atg	ggc	att	48
Thr	Leu	Glu	Ala	Pro	Ser	Gly	Lys	Lys	Val	Asp	Ala	Trp	Met	Gly	Ile	
1				5					10					15		
ccg	tac	gcg	cag	cct	ccg	ctg	ggt	ccg	ctc	cgg	ttt	cga	cat	ccg	cga	96
Pro	Tyr	Ala	Gln	Pro	Pro	Leu	Gly	Pro	Leu	Arg	Phe	Arg	His	Pro	Arg	
			20					25					30			
ccc	gcc	gaa	aga	tgg	acc	ggt	gtg	ctg	aac	gcg	acc	aaa	ccg	ccc	aac	144
Pro	Ala	Glu	Arg	Trp	Thr	Gly	Val	Leu	Asn	Ala	Thr	Lys	Pro	Pro	Asn	

s644LISTGB80

35	40	45	
tcc tgc gtc cag atc gtg gac acc gtg ttc ggt gac ttc ccg ggg gcc Ser Cys Val Gln Ile Val Asp Thr Val Phe Gly Asp Phe Pro Gly Ala	50 55 60		192
acc atg tgg aac ccg aac aca ccg ctc tcg gag gac tgt ctg tac atc Thr Met Trp Asn Pro Asn Thr Pro Leu Ser Glu Asp Cys Leu Tyr Ile	65 70 75 80		240
aac gtg gtc gtg cca cgg ccc agg ccc aag aat gcc gcc gtc atg ctg Asn Val Val Val Pro Arg Pro Arg Pro Lys Asn Ala Ala Val Met Leu	85 90 95		288
tgg atc ttc ggg ggt ggc ttc tac tcc ggg act gcc acg ctg gac gtg Trp Ile Phe Gly Gly Gly Phe Tyr Ser Gly Thr Ala Thr Leu Asp Val	100 105 110		336
tac gac cac cgg acg ctg gcc tcg gag gag aac gtg atc gta gtt tcg Tyr Asp His Arg Thr Leu Ala Ser Glu Glu Asn Val Ile Val Val Ser	115 120 125		384
ctg cag tac cgt gtc gca agt ctt ggg ttt ctc t Leu Gln Tyr Arg Val Ala Ser Leu Gly Phe Leu	130 135		418
<210> 89			
<211> 402			
<212> DNA			
<213> Culex pipiens pipiens strain killcare (S)			
<220>			
<221> CDS			
<222> (1)..(402)			
<400> 89			
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ccg ctg ggt ccg ctc cgg ttt cga cat ccg cga ccc gcc gaa aga tgg Pro Leu Gly Pro Leu Arg Phe Arg His Pro Arg Pro Ala Glu Arg Trp	20 25 30		96
acc ggt gtg ctg aac gcg acc aaa cca ccc aac tcc tgc gtc cag atc Thr Gly Val Leu Asn Ala Thr Lys Pro Pro Asn Ser Cys Val Gln Ile	35 40 45		144
gtg gac aca gtg ttc ggt gac ttc ccg ggg gcc acc atg tgg aac ccg Val Asp Thr Val Phe Gly Asp Phe Pro Gly Ala Thr Met Trp Asn Pro	50 55 60		192
aac aca ccc ctc tcg gag gac tgt ctg tac atc aac gtg gtc gtg cca Asn Thr Pro Leu Ser Glu Asp Cys Leu Tyr Ile Asn Val Val Val Pro	65 70 75 80		240
agg ccg agg ccc aag aat gcc gct gtc atg ctg tgg atc ttc ggg ggt Arg Pro Arg Pro Lys Asn Ala Ala Val Met Leu Trp Ile Phe Gly Gly	85 90 95		288
ggc ttc tac tcc ggg act gcc acg ttg gac gtg tac gat cat cgg acg Gly Phe Tyr Ser Gly Thr Ala Thr Leu Asp Val Tyr Asp His Arg Thr	100 105 110		336

## 384

384

402

<400> 91  
Lys Gly Lys Ile Arg Gly Thr Thr Leu Glu Ala Pro Ser Gly Lys Lys  
1 5 10 15  
Val Asp Ala Trp Met Gly Ile Pro Tyr Ala Gln Pro Pro Leu Gly Pro  
20 25 30  
Leu Arg Phe Arg His Pro Arg Pro Ala Glu Arg Trp Thr Gly Val Leu  
35 40 45  
Asn Ala Thr Lys Pro Pro Asn Ser Cys Val Gln Ile Val Asp Thr Val  
50 55 60



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Phe Gly Asp Phe Pro Gly Ala Thr Met Trp Asn Pro Asn Thr Pro Leu  
65 70 75 80  
Ser Glu Asp Cys Leu Tyr Ile Asn Val Val Val Pro Arg Pro Arg Pro  
85 90 95  
Lys Asn Ala Ala Val Met Leu Trp Ile Phe Gly Gly Gly Phe Tyr Ser  
100 105 110  
Gly Thr Ala Thr Leu Asp Val Tyr Asp His Arg Thr Leu Ala Ser Glu  
115 120 125  
Glu Asn Val Ile Val Val Ser Leu Gln Tyr Arg Val Ala Ser Leu Gly  
130 135 140  
Phe Leu Phe Leu Gly Thr Pro Glu  
145 150

<210> 92  
<211> 148  
<212> PRT  
<213> Culex pipiens pipiens strain S-LAB (S)

<400> 92  
Gly Lys Ile Arg Gly Thr Thr Leu Glu Ala Pro Ser Gly Lys Lys Val  
1 5 10 15  
Asp Ala Trp Met Gly Ile Pro Tyr Ala Gln Pro Pro Leu Gly Pro Leu  
20 25 30  
Arg Phe Arg His Pro Arg Pro Ala Glu Arg Trp Thr Gly Val Leu Asn  
35 40 45  
Ala Thr Lys Pro Pro Asn Ser Cys Val Gln Ile Val Asp Thr Val Phe  
50 55 60  
Gly Asp Phe Pro Gly Ala Thr Met Trp Asn Pro Asn Thr Pro Leu Ser  
65 70 75 80  
Glu Asp Cys Leu Tyr Ile Asn Val Val Val Pro Arg Pro Arg Pro Lys  
85 90 95  
Asn Ala Ala Val Met Leu Trp Ile Phe Gly Gly Gly Phe Tyr Ser Gly  
100 105 110  
Thr Ala Thr Leu Asp Val Tyr Asp His Arg Thr Leu Ala Ser Glu Glu  
115 120 125  
Asn Val Ile Val Val Ser Leu Gln Tyr Arg Val Ala Ser Leu Gly Phe  
130 135 140  
Leu Phe Leu Gly  
145

<210> 93  
<211> 152  
<212> PRT  
<213> Culex pipiens pipiens strain Padova (R)

<400> 93  
Gly Lys Ile Arg Gly Thr Thr Leu Glu Ala Pro Ser Gly Lys Lys Val  
1 5 10 15

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Asp Ala Trp Met Gly Ile Pro Tyr Ala Gln Pro Pro Leu Gly Pro Leu  
 20 25 30  
 Arg Phe Arg His Pro Arg Pro Ala Glu Arg Trp Thr Gly Val Leu Asn  
 35 40 45  
 Ala Thr Lys Pro Pro Asn Ser Cys Val Gln Ile Val Asp Thr Val Phe  
 50 55 60  
 Gly Asp Phe Pro Gly Ala Thr Met Trp Asn Pro Asn Thr Pro Leu Ser  
 65 70 75 80  
 Glu Asp Cys Leu Tyr Ile Asn Val Val Val Pro Arg Pro Arg Pro Lys  
 85 90 95  
 Asn Ala Ala Val Met Leu Trp Ile Phe Gly Gly Ser Phe Tyr Ser Gly  
 100 105 110  
 Thr Ala Thr Leu Asp Val Tyr Asp His Arg Thr Leu Ala Ser Glu Glu  
 115 120 125  
 Asn Val Ile Val Val Ser Leu Gln Tyr Arg Val Ala Ser Leu Gly Phe  
 130 135 140  
 Leu Phe Leu Gly Thr Pro Glu Ala  
 145 150

<210> 94  
 <211> 154  
 <212> PRT  
 <213> Culex pipiens pipiens strain Praias (R)

<400> 94  
 Asp Lys Gly Lys Ile Arg Gly Thr Thr Leu Glu Ala Pro Ser Gly Lys  
 1 5 10 15  
 Lys Val Asp Ala Trp Met Gly Ile Pro Tyr Ala Gln Pro Pro Leu Gly  
 20 25 30  
 Pro Leu Arg Phe Arg His Pro Arg Pro Ala Glu Arg Trp Thr Gly Val  
 35 40 45  
 Leu Asn Ala Thr Lys Pro Pro Asn Ser Cys Val Gln Ile Val Asp Thr  
 50 55 60  
 Val Phe Gly Asp Phe Pro Gly Ala Thr Met Trp Asn Pro Asn Thr Pro  
 65 70 75 80  
 Leu Ser Glu Asp Cys Leu Tyr Ile Asn Val Val Val Pro Arg Pro Arg  
 85 90 95  
 Pro Lys Asn Ala Ala Val Met Leu Trp Ile Phe Gly Gly Ser Phe Tyr  
 100 105 110  
 Ser Gly Thr Ala Thr Leu Asp Val Tyr Asp His Arg Thr Leu Ala Ser  
 115 120 125  
 Glu Glu Asn Val Ile Val Val Ser Leu Gln Tyr Arg Val Ala Ser Leu  
 130 135 140  
 Gly Phe Leu Phe Leu Gly Thr Pro Glu Ala  
 145 150

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&lt;210&gt; 95

&lt;211&gt; 154

&lt;212&gt; PRT

&lt;213&gt; Culex pipiens quinquefasciatus strain Supercar (R)

&lt;400&gt; 95

Asp Lys Gly Lys Ile Arg Gly Thr Thr Leu Glu Ala Pro Ser Gly Lys  
 1 5 10 15  
 Lys Val Asp Ala Trp Met Gly Ile Pro Tyr Ala Gln Pro Pro Leu Gly  
 20 25 30  
 Pro Leu Arg Phe Arg His Pro Arg Pro Ala Glu Arg Trp Thr Gly Val  
 35 40 45  
 Leu Asn Ala Thr Lys Pro Pro Asn Ser Cys Val Gln Ile Val Asp Thr  
 50 55 60  
 Val Phe Gly Asp Phe Pro Gly Ala Thr Met Trp Asn Pro Asn Thr Pro  
 65 70 75 80  
 Leu Ser Glu Asp Cys Leu Tyr Ile Asn Val Val Val Pro Arg Pro Arg  
 85 90 95  
 Pro Lys Asn Ala Ala Val Met Leu Trp Ile Phe Gly Gly Ser Phe Tyr  
 100 105 110  
 Ser Gly Thr Ala Thr Leu Asp Val Tyr Asp His Arg Thr Leu Ala Ser  
 115 120 125  
 Glu Glu Asn Val Ile Val Val Ser Leu Gln Tyr Arg Val Ala Ser Leu  
 130 135 140  
 Gly Phe Leu Phe Leu Gly Thr Pro Glu Ala  
 145 150

&lt;210&gt; 96

&lt;211&gt; 148

&lt;212&gt; PRT

&lt;213&gt; Culex pipiens pipiens strain Bruges A (S)

&lt;400&gt; 96

Gly Lys Ile Arg Gly Thr Thr Leu Glu Ala Pro Ser Gly Lys Lys Val  
 1 5 10 15  
 Asp Ala Trp Met Gly Ile Pro Tyr Ala Gln Pro Pro Leu Gly Pro Leu  
 20 25 30  
 Arg Phe Arg His Pro Arg Pro Ala Glu Arg Trp Thr Gly Val Leu Asn  
 35 40 45  
 Ala Thr Lys Pro Pro Asn Ser Cys Val Gln Ile Val Asp Thr Val Phe  
 50 55 60  
 Gly Asp Phe Pro Gly Ala Thr Met Trp Asn Pro Asn Thr Pro Leu Ser  
 65 70 75 80  
 Glu Asp Cys Leu Tyr Ile Asn Val Val Val Pro Arg Pro Arg Pro Lys  
 85 90 95  
 Asn Ala Ala Val Met Leu Trp Ile Phe Gly Gly Gly Phe Tyr Ser Gly  
 100 105 110

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Thr Ala Thr Leu Asp Val Tyr Asp His Arg Thr Leu Ala Ser Glu Glu  
 115 120 125  
 Asn Val Ile Val Val Ser Leu Gln Tyr Arg Val Ala Ser Leu Gly Phe  
 130 135 140  
 Leu Phe Leu Gly  
 145

<210> 97  
 <211> 152  
 <212> PRT  
 <213> Culex pipiens quinquefasciatus strain B0 (R)

<400> 97  
 Gly Lys Ile Arg Gly Thr Thr Leu Glu Ala Pro Ser Gly Lys Lys Val  
 1 5 10 15  
 Asp Ala Trp Met Gly Ile Pro Tyr Ala Gln Pro Pro Leu Gly Pro Leu  
 20 25 30  
 Arg Phe Arg His Pro Arg Pro Ala Glu Arg Trp Thr Gly Val Leu Asn  
 35 40 45  
 Ala Thr Lys Pro Pro Asn Ser Cys Val Gln Ile Val Asp Thr Val Phe  
 50 55 60  
 Gly Asp Phe Pro Gly Ala Thr Met Trp Asn Pro Asn Thr Pro Leu Ser  
 65 70 75 80  
 Glu Asp Cys Leu Tyr Ile Asn Val Val Val Pro Arg Pro Arg Pro Lys  
 85 90 95  
 Asn Ala Ala Val Met Leu Trp Ile Phe Gly Gly Ser Phe Tyr Ser Gly  
 100 105 110  
 Thr Ala Thr Leu Asp Val Tyr Asp His Arg Thr Leu Ala Ser Glu Glu  
 115 120 125  
 Asn Val Ile Val Val Ser Leu Gln Tyr Arg Val Ala Ser Leu Gly Phe  
 130 135 140  
 Leu Phe Leu Gly Thr Pro Glu Ala  
 145 150

<210> 98  
 <211> 148  
 <212> PRT  
 <213> Culex pipiens quinquefasciatus strain DJI (R)

<400> 98  
 Gly Lys Ile Arg Gly Thr Thr Leu Glu Ala Pro Ser Gly Lys Lys Val  
 1 5 10 15  
 Asp Ala Trp Met Gly Ile Pro Tyr Ala Gln Pro Pro Leu Gly Pro Leu  
 20 25 30  
 Arg Phe Arg His Pro Arg Pro Ala Glu Arg Trp Thr Gly Val Leu Asn  
 35 40 45  
 Ala Thr Lys Pro Pro Asn Ser Cys Val Gln Ile Val Asp Thr Val Phe  
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50

55

60

Gly Asp Phe Pro Gly Ala Thr Met Trp Asn Pro Asn Thr Pro Leu Ser  
65 70 75 80

Glu Asp Cys Leu Tyr Ile Asn Val Val Val Pro Arg Pro Arg Pro Lys  
85 90 95

Asn Ala Ala Val Met Leu Trp Ile Phe Gly Gly Ser Phe Tyr Ser Gly  
100 105 110

Thr Ala Thr Leu Asp Val Tyr Asp His Arg Thr Leu Ala Ser Glu Glu  
115 120 125

Asn Val Ile Val Val Ser Leu Gln Tyr Arg Val Ala Ser Leu Gly Phe  
130 135 140

Leu Phe Leu Gly  
145

<210> 99

<211> 152

<212> PRT

<213> Culex pipiens quinquefasciatus strain Harare (R)

<400> 99

Gly Lys Ile Arg Gly Thr Thr Leu Glu Ala Pro Ser Gly Lys Lys Val  
1 5 10 15

Asp Ala Trp Met Gly Ile Pro Tyr Ala Gln Pro Pro Leu Gly Pro Leu  
20 25 30

Arg Phe Arg His Pro Arg Pro Ala Glu Arg Trp Thr Gly Val Leu Asn  
35 40 45

Ala Thr Lys Pro Pro Asn Ser Cys Val Gln Ile Val Asp Thr Val Phe  
50 55 60

Gly Asp Phe Pro Gly Ala Thr Met Trp Asn Pro Asn Thr Pro Leu Ser  
65 70 75 80

Glu Asp Cys Leu Tyr Ile Asn Val Val Val Pro Arg Pro Arg Pro Lys  
85 90 95

Asn Ala Ala Val Met Leu Trp Ile Phe Gly Gly Ser Phe Tyr Ser Gly  
100 105 110

Thr Ala Thr Leu Asp Val Tyr Asp His Arg Thr Leu Ala Ser Glu Glu  
115 120 125

Asn Val Ile Val Val Ser Leu Gln Tyr Arg Val Ala Ser Leu Gly Phe  
130 135 140

Leu Phe Leu Gly Thr Pro Glu Ala  
145 150

<210> 100

<211> 152

<212> PRT

<213> Culex pipiens quinquefasciatus strain Martinique (R)

<400> 100

Gly Lys Ile Arg Gly Thr Thr Leu Glu Ala Pro Ser Gly Lys Lys Val  
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1           5           10           15
Asp Ala Trp Met Gly Ile Pro Tyr Ala Gln Pro Pro Leu Gly Pro Leu
      20      25      30
Arg Phe Arg His Pro Arg Pro Ala Glu Arg Trp Thr Gly Val Leu Asn
      35      40      45
Ala Thr Lys Pro Pro Asn Ser Cys Val Gln Ile Val Asp Thr Val Phe
      50      55      60
Gly Asp Phe Pro Gly Ala Thr Met Trp Asn Pro Asn Thr Pro Leu Ser
      65      70      75      80
Glu Asp Cys Leu Tyr Ile Asn Val Val Val Pro Arg Pro Arg Pro Lys
      85      90      95
Asn Ala Ala Val Met Leu Trp Ile Phe Gly Gly Ser Phe Tyr Ser Gly
      100      105      110
Thr Ala Thr Leu Asp Val Tyr Asp His Arg Thr Leu Ala Ser Glu Glu
      115      120      125
Asn Val Ile Val Val Ser Leu Gln Tyr Arg Val Ala Ser Leu Gly Phe
      130      135      140
Leu Phe Leu Gly Thr Pro Glu Ala
      145      150

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&lt;210&gt; 101

&lt;211&gt; 148

&lt;212&gt; PRT

&lt;213&gt; Culex pipiens pipiens strain Barriol (R)

&lt;400&gt; 101

```

Gly Lys Ile Arg Gly Thr Thr Leu Glu Ala Pro Ser Gly Lys Lys Val
1      5      10      15
Asp Ala Trp Met Gly Ile Pro Tyr Ala Gln Pro Pro Leu Gly Pro Leu
      20      25      30
Arg Phe Arg His Pro Arg Pro Ala Glu Arg Trp Thr Gly Val Leu Asn
      35      40      45
Ala Thr Lys Pro Pro Asn Ser Cys Val Gln Ile Val Asp Thr Val Phe
      50      55      60
Gly Asp Phe Pro Gly Ala Thr Met Trp Asn Pro Asn Thr Pro Leu Ser
      65      70      75      80
Glu Asp Cys Leu Tyr Ile Asn Val Val Val Pro Arg Pro Arg Pro Lys
      85      90      95
Asn Ala Ala Val Met Leu Trp Ile Phe Gly Gly Ser Phe Tyr Ser Gly
      100      105      110
Thr Ala Thr Leu Asp Val Tyr Asp His Arg Thr Leu Ala Ser Glu Glu
      115      120      125
Asn Val Ile Val Val Ser Leu Gln Tyr Arg Val Ala Ser Leu Gly Phe
      130      135      140
Leu Phe Leu Gly

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145

&lt;210&gt; 102

&lt;211&gt; 148

&lt;212&gt; PRT

&lt;213&gt; Culex pipiens pipiens strain Bleuet (S)

&lt;400&gt; 102

Gly Lys Ile Arg Gly Thr Thr Leu Glu Ala Pro Ser Gly Lys Lys Val  
1 5 10 15Asp Ala Trp Met Gly Ile Pro Tyr Ala Gln Pro Pro Leu Gly Pro Leu  
20 25 30Arg Phe Arg His Pro Arg Pro Ala Glu Arg Trp Thr Gly Val Leu Asn  
35 40 45Ala Thr Lys Pro Pro Asn Ser Cys Val Gln Ile Val Asp Thr Val Phe  
50 55 60Gly Asp Phe Pro Gly Ala Thr Met Trp Asn Pro Asn Thr Pro Leu Ser  
65 70 75 80Glu Asp Cys Leu Tyr Ile Asn Val Val Val Pro Arg Pro Arg Pro Lys  
85 90 95Asn Ala Ala Val Met Leu Trp Ile Phe Gly Gly Gly Phe Tyr Ser Gly  
100 105 110Thr Ala Thr Leu Asp Val Tyr Asp His Arg Thr Leu Ala Ser Glu Glu  
115 120 125Asn Val Ile Val Val Ser Leu Gln Tyr Arg Val Ala Ser Leu Gly Phe  
130 135 140

Leu Phe Leu Gly

145

&lt;210&gt; 103

&lt;211&gt; 148

&lt;212&gt; PRT

&lt;213&gt; Culex pipiens pipiens strain Bruges B (S)

&lt;400&gt; 103

Gly Lys Ile Arg Gly Thr Thr Leu Glu Ala Pro Ser Gly Lys Lys Val  
1 5 10 15Asp Ala Trp Met Gly Ile Pro Tyr Ala Gln Pro Pro Leu Gly Pro Leu  
20 25 30Arg Phe Arg His Pro Arg Pro Ala Glu Arg Trp Thr Gly Val Leu Asn  
35 40 45Ala Thr Lys Pro Pro Asn Ser Cys Val Gln Ile Val Asp Thr Val Phe  
50 55 60Gly Asp Phe Pro Gly Ala Thr Met Trp Asn Pro Asn Thr Pro Leu Ser  
65 70 75 80Glu Asp Cys Leu Tyr Ile Asn Val Val Val Pro Arg Pro Arg Pro Lys  
85 90 95Asn Ala Ala Val Met Leu Trp Ile Phe Gly Gly Gly Phe Tyr Ser Gly  
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100

105

110

Thr Ala Thr Leu Asp Val Tyr Asp His Arg Thr Leu Ala Ser Glu Glu  
 115 120 125

Asn Val Ile Val Val Ser Leu Gln Tyr Arg Val Ala Ser Leu Gly Phe  
 130 135 140

Leu Phe Leu Gly  
 145

&lt;210&gt; 104

&lt;211&gt; 148

&lt;212&gt; PRT

&lt;213&gt; Culex pipiens pipiens strain Heteren (S)

&lt;400&gt; 104

Gly Lys Ile Arg Gly Thr Thr Leu Glu Ala Pro Ser Gly Lys Lys Val  
 1 5 10 15

Asp Ala Trp Met Gly Ile Pro Tyr Ala Gln Pro Pro Leu Gly Pro Leu  
 20 25 30

Arg Phe Arg His Pro Arg Pro Ala Glu Arg Trp Thr Gly Val Leu Asn  
 35 40 45

Ala Thr Lys Pro Pro Asn Ser Cys Val Gln Ile Val Asp Thr Val Phe  
 50 55 60

Gly Asp Phe Pro Gly Ala Thr Met Trp Asn Pro Asn Thr Pro Leu Ser  
 65 70 75 80

Glu Asp Cys Leu Tyr Ile Asn Val Val Val Pro Arg Pro Arg Pro Lys  
 85 90 95

Asn Ala Ala Val Met Leu Trp Ile Phe Gly Gly Gly Phe Tyr Ser Gly  
 100 105 110

Thr Ala Thr Leu Asp Val Tyr Asp His Arg Thr Leu Ala Ser Glu Glu  
 115 120 125

Asn Val Ile Val Val Ser Leu Gln Tyr Arg Val Ala Ser Leu Gly Phe  
 130 135 140

Leu Phe Leu Gly  
 145

&lt;210&gt; 105

&lt;211&gt; 149

&lt;212&gt; PRT

&lt;213&gt; Culex pipiens quinquefasciatus strain Ling (S)

&lt;400&gt; 105

Gln Gly Lys Ile Arg Gly Thr Thr Leu Glu Ala Pro Ser Gly Lys Lys  
 1 5 10 15

Val Asp Ala Trp Met Gly Ile Pro Tyr Ala Gln Pro Pro Leu Gly Pro  
 20 25 30

Leu Arg Phe Arg His Pro Arg Pro Ala Glu Arg Trp Thr Gly Val Leu  
 35 40 45

Asn Ala Thr Lys Pro Pro Asn Ser Cys Val Gln Ile Val Asp Thr Val  
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```

      50              55              60
Phe Gly Asp Phe Pro Gly Ala Thr Met Trp Asn Pro Asn Thr Pro Leu
 65      70      75
Ser Glu Asp Cys Leu Tyr Ile Asn Val Val Val Pro Arg Pro Arg Pro
      85      90      95
Lys Asn Ala Ala Val Met Leu Trp Ile Phe Gly Gly Gly Phe Tyr Ser
      100      105      110
Gly Thr Ala Thr Leu Asp Val Tyr Asp His Arg Thr Leu Ala Ser Glu
      115      120      125
Glu Asn Val Ile Val Val Ser Leu Gln Tyr Arg Val Ala Ser Leu Gly
      130      135      140

```

Phe Leu Phe Leu Gly  
145

<210> 106  
 <211> 148  
 <212> PRT  
 <213> Culex pipiens quinquefasciatus strain Mao (S)

```

<400> 106
Gly Lys Ile Arg Gly Thr Thr Leu Glu Ala Pro Ser Gly Lys Lys Val
 1      5      10      15
Asp Ala Trp Met Gly Ile Pro Tyr Ala Gln Pro Pro Leu Gly Pro Leu
      20      25      30
Arg Phe Arg His Pro Arg Pro Ala Glu Arg Trp Thr Gly Val Leu Asn
      35      40      45
Ala Thr Lys Pro Pro Asn Ser Cys Val Gln Ile Val Asp Thr Val Phe
      50      55      60
Gly Asp Phe Pro Gly Ala Thr Met Trp Asn Pro Asn Thr Pro Leu Ser
      65      70      75
Glu Asp Cys Leu Tyr Ile Asn Val Val Val Pro Arg Pro Arg Pro Lys
      85      90      95
Asn Ala Ala Val Met Leu Trp Ile Phe Gly Gly Gly Phe Tyr Ser Gly
      100      105      110
Thr Ala Thr Leu Asp Val Tyr Asp His Arg Thr Leu Ala Ser Glu Glu
      115      120      125
Asn Val Ile Val Val Ser Leu Gln Tyr Arg Val Ala Ser Leu Gly Phe
      130      135      140

```

Leu Phe Leu Gly  
145

<210> 107  
 <211> 144  
 <212> PRT  
 <213> Culex pipiens quinquefasciatus strain TemR (S)

```

<400> 107
Lys Ile Arg Gly Thr Thr Leu Glu Ala Pro Ser Gly Lys Lys Val Asp

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1	5	10	15
Ala Trp Met Gly Ile Pro Tyr Ala Gln Pro Pro Leu Gly Pro Leu Arg	20	25	30
Phe Arg His Pro Arg Pro Ala Glu Arg Trp Thr Gly Val Leu Asn Ala	35	40	45
Thr Lys Pro Pro Asn Ser Cys Val Gln Ile Val Asp Thr Val Phe Gly	50	55	60
Asp Phe Pro Gly Ala Thr Met Trp Asn Pro Asn Thr Pro Leu Ser Glu	65	70	75
Asp Cys Leu Tyr Ile Asn Val Val Val Pro Arg Pro Arg Pro Lys Asn	85	90	95
Ala Ala Val Met Leu Trp Ile Phe Gly Gly Gly Phe Tyr Ser Gly Thr	100	105	110
Ala Thr Leu Asp Val Tyr Asp His Arg Thr Leu Thr Ser Glu Glu Asn	115	120	125
Val Ile Val Val Ser Leu Gln Tyr Arg Val Ala Ser Leu Gly Phe Leu	130	135	140

<210> 108

<211> 148

<212> PRT

<213> Culex torrentium strain Uppsala

<400> 108

Gly Lys Ile Arg Gly Thr Thr Leu Glu Ala Pro Ser Gly Lys Lys Val	1	5	10	15
Asp Ala Trp Met Gly Ile Pro Tyr Ala Gln Pro Pro Leu Gly Pro Leu	20	25	30	
Arg Phe Arg His Pro Arg Pro Ala Glu Arg Trp Thr Gly Val Leu Asn	35	40	45	
Ala Thr Lys Pro Pro Asn Ser Cys Val Gln Ile Val Asp Thr Val Phe	50	55	60	
Gly Asp Phe Pro Gly Ala Thr Met Trp Asn Pro Asn Thr Pro Leu Ser	65	70	75	80
Glu Asp Cys Leu Tyr Ile Asn Val Val Val Pro Arg Pro Arg Pro Lys	85	90	95	
Asn Ala Ala Val Met Leu Trp Ile Phe Gly Gly Gly Phe Tyr Ser Gly	100	105	110	
Thr Ala Thr Leu Asp Val Tyr Asp His Arg Thr Leu Ala Ser Glu Glu	115	120	125	
Asn Val Ile Val Val Ser Leu Gln Tyr Arg Val Ala Ser Leu Gly Phe	130	135	140	
Leu Phe Leu Gly	145			

<210> 109

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<211> 148

<212> PRT

<213> Culex pipiens quinquefasciatus strain Trans (S)

<400> 109

Gly Lys Ile Arg Gly Thr Thr Leu Glu Ala Pro Ser Gly Lys Lys Val  
 1 5 10 15  
 Asp Ala Trp Met Gly Ile Pro Tyr Ala Gln Pro Pro Leu Gly Pro Leu  
 20 25 30  
 Arg Phe Arg His Pro Arg Pro Ala Glu Arg Trp Thr Gly Val Leu Asn  
 35 40 45  
 Ala Thr Lys Pro Pro Asn Ser Cys Val Gln Ile Val Asp Thr Val Phe  
 50 55 60  
 Gly Asp Phe Pro Gly Ala Thr Met Trp Asn Pro Asn Thr Pro Leu Ser  
 65 70 75 80  
 Glu Asp Cys Leu Tyr Ile Asn Val Val Val Pro Arg Pro Arg Pro Lys  
 85 90 95  
 Asn Ala Ala Val Met Leu Trp Ile Phe Gly Gly Gly Phe Tyr Ser Gly  
 100 105 110  
 Thr Ala Thr Leu Asp Val Tyr Asp His Arg Thr Leu Thr Ser Glu Glu  
 115 120 125  
 Asn Val Ile Val Val Ser Leu Gln Tyr Arg Val Ala Ser Leu Gly Phe  
 130 135 140  
 Leu Phe Leu Gly  
 145

<210> 110

<211> 137

<212> PRT

<213> Culex pipiens quinquefasciatus strain BED (S)

<400> 110

Thr Leu Glu Ala Pro Ser Gly Lys Lys Val Asp Ala Trp Met Gly Ile  
 1 5 10 15  
 Pro Tyr Ala Gln Pro Pro Leu Gly Pro Leu Arg Phe Arg His Pro Arg  
 20 25 30  
 Pro Ala Glu Arg Trp Thr Gly Val Leu Asn Ala Thr Lys Pro Pro Asn  
 35 40 45  
 Ser Cys Val Gln Ile Val Asp Thr Val Phe Gly Asp Phe Pro Gly Ala  
 50 55 60  
 Thr Met Trp Asn Pro Asn Thr Pro Leu Ser Glu Asp Cys Leu Tyr Ile  
 65 70 75 80  
 Asn Val Val Val Pro Arg Pro Arg Pro Lys Asn Ala Ala Val Met Leu  
 85 90 95  
 Trp Ile Phe Gly Gly Gly Phe Tyr Ser Gly Thr Ala Thr Leu Asp Val  
 100 105 110  
 Tyr Asp His Arg Thr Leu Ala Ser Glu Glu Asn Val Ile Val Val Ser  
 115 120 125

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Leu Gln Tyr Arg Val Ala Ser Leu Gly  
130 135

<210> 111

<211> 144

<212> PRT

<213> Culex pipiens quinquefasciatus strain BSQ (S)

<400> 111

Gly Lys Ile Arg Gly Thr Thr Leu Glu Ala Pro Ser Gly Lys Lys Val  
1 5 10 15

Asp Ala Trp Met Gly Ile Pro Tyr Ala Gln Pro Pro Leu Gly Pro Leu  
20 25 30

Arg Phe Arg His Pro Arg Pro Ala Glu Arg Trp Thr Gly Val Leu Asn  
35 40 45

Ala Thr Lys Pro Pro Asn Ser Cys Val Gln Ile Val Asp Thr Val Phe  
50 55 60

Gly Asp Phe Pro Gly Ala Thr Met Trp Asn Pro Asn Thr Pro Leu Ser  
65 70 75 80

Glu Asp Cys Leu Tyr Ile Asn Val Val Val Pro Arg Pro Arg Pro Lys  
85 90 95

Asn Ala Ala Val Met Leu Trp Ile Phe Gly Gly Gly Phe Tyr Ser Gly  
100 105 110

Thr Ala Thr Leu Asp Val Tyr Asp His Arg Thr Leu Ala Ser Glu Glu  
115 120 125

Asn Val Ile Val Val Ser Leu Gln Tyr Arg Val Ala Ser Leu Gly Phe  
130 135 140

<210> 112

<211> 137

<212> PRT

<213> Culex pipiens quinquefasciatus strain Brazza (S)

<400> 112

Leu Glu Ala Pro Ser Gly Lys Lys Val Asp Ala Trp Met Gly Ile Pro  
1 5 10 15

Tyr Ala Gln Pro Pro Leu Gly Pro Leu Arg Phe Arg His Pro Arg Pro  
20 25 30

Ala Glu Arg Trp Thr Gly Val Leu Asn Ala Thr Lys Pro Asn Ser  
35 40 45

Cys Val Gln Ile Val Asp Thr Val Phe Gly Asp Phe Pro Gly Ala Thr  
50 55 60

Met Trp Asn Pro Asn Thr Pro Leu Ser Glu Asp Cys Leu Tyr Ile Asn  
65 70 75 80

Val Val Val Pro Arg Pro Arg Pro Lys Asn Ala Ala Val Met Leu Trp  
85 90 95

Ile Phe Gly Gly Gly Phe Tyr Ser Gly Thr Ala Thr Leu Asp Val Tyr  
100 105 110

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Asp His Arg Thr Leu Ala Ser Glu Glu Asn Val Ile Val Val Ser Leu  
115 120 125

Gln Tyr Arg Val Ala Ser Leu Gly Phe  
130 135

<210> 113

<211> 144

<212> PRT

<213> Culex pipiens quinquefasciatus strain Bouake (R)

<400> 113

Gly Lys Ile Arg Gly Thr Thr Leu Glu Ala Pro Ser Gly Lys Lys Val  
1 5 10 15

Asp Ala Trp Met Gly Ile Pro Tyr Ala Gln Pro Pro Leu Gly Pro Leu  
20 25 30

Arg Phe Arg His Pro Arg Pro Ala Glu Arg Trp Thr Gly Val Leu Asn  
35 40 45

Ala Thr Lys Pro Pro Asn Ser Cys Val Gln Ile Val Asp Thr Val Phe  
50 55 60

Gly Asp Phe Pro Gly Ala Thr Met Trp Asn Pro Asn Thr Pro Leu Ser  
65 70 75 80

Glu Asp Cys Leu Tyr Ile Asn Val Val Val Pro Arg Pro Arg Pro Lys  
85 90 95

Asn Ala Ala Val Met Leu Trp Ile Phe Gly Gly Gly Phe Tyr Ser Gly  
100 105 110

Thr Ala Thr Leu Asp Val Tyr Asp His Arg Thr Leu Ala Ser Glu Glu  
115 120 125

Asn Val Ile Val Val Ser Leu Gln Tyr Arg Val Ala Ser Leu Gly Phe  
130 135 140

<210> 114

<211> 138

<212> PRT

<213> Culex pipiens quinquefasciatus strain Thai (S)

<400> 114

Thr Leu Glu Ala Pro Ser Gly Lys Lys Val Asp Ala Trp Met Gly Ile  
1 5 10 15

Pro Tyr Ala Gln Pro Pro Leu Gly Pro Leu Arg Phe Arg His Pro Arg  
20 25 30

Pro Ala Glu Arg Trp Thr Gly Val Leu Asn Ala Thr Lys Pro Pro Asn  
35 40 45

Ser Cys Val Gln Ile Val Asp Thr Val Phe Gly Asp Phe Pro Gly Ala  
50 55 60

Thr Met Trp Asn Pro Asn Thr Pro Leu Ser Glu Asp Cys Leu Tyr Ile  
65 70 75 80

Asn Val Val Val Pro Arg Pro Arg Pro Lys Asn Ala Ala Val Met Leu  
85 90 95

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Trp Ile Phe Gly Gly Gly Phe Tyr Ser Gly Thr Ala Thr Leu Asp Val  
 100 105 110  
 Tyr Asp His Arg Thr Leu Ala Ser Glu Glu Asn Val Ile Val Val Ser  
 115 120 125  
 Leu Gln Tyr Arg Val Ala Ser Leu Gly Phe  
 130 135

<210> 115  
 <211> 141  
 <212> PRT  
 <213> Culex pipiens quinquefasciatus strain Madurai (S)

<400> 115  
 Leu Glu Ala Pro Ser Gly Lys Lys Val Asp Ala Trp Met Gly Ile Pro  
 1 5 10 15  
 Tyr Ala Gln Pro Pro Leu Gly Pro Leu Arg Phe Arg His Pro Arg Pro  
 20 25 30  
 Ala Glu Arg Trp Thr Gly Val Leu Asn Ala Thr Lys Pro Pro Asn Ser  
 35 40 45  
 Cys Val Gln Ile Val Asp Thr Val Phe Gly Asp Phe Pro Gly Ala Thr  
 50 55 60  
 Met Trp Asn Pro Asn Thr Pro Leu Ser Glu Asp Cys Leu Tyr Ile Asn  
 65 70 75 80  
 Val Val Val Pro Arg Pro Arg Pro Lys Asn Ala Ala Val Met Leu Trp  
 85 90 95  
 Ile Phe Gly Gly Gly Phe Tyr Ser Gly Thr Ala Thr Leu Asp Val Tyr  
 100 105 110  
 Asp His Arg Thr Leu Ala Ser Glu Glu Asn Val Ile Val Val Ser Leu  
 115 120 125  
 Gln Tyr Arg Val Ala Ser Leu Gly Phe Leu Phe Leu Gly  
 130 135 140

<210> 116  
 <211> 141  
 <212> PRT  
 <213> Culex pipiens quinquefasciatus strain Recife (R)

<400> 116  
 Leu Glu Ala Pro Ser Gly Lys Lys Val Asp Ala Trp Met Gly Ile Pro  
 1 5 10 15  
 Tyr Ala Gln Pro Pro Leu Gly Pro Leu Arg Phe Arg His Pro Arg Pro  
 20 25 30  
 Ala Glu Arg Trp Thr Gly Val Leu Asn Ala Thr Lys Pro Pro Asn Ser  
 35 40 45  
 Cys Val Gln Ile Val Asp Thr Val Phe Gly Asp Phe Pro Gly Ala Thr  
 50 55 60

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Met Trp Asn Pro Asn Thr Pro Leu Ser Glu Asp Cys Leu Tyr Ile Asn  
65 70 75 80  
Val Val Val Pro Arg Pro Arg Pro Lys Asn Ala Ala Val Met Leu Trp  
85 90 95  
Ile Phe Gly Gly Ser Phe Tyr Ser Gly Thr Ala Thr Leu Asp Val Tyr  
100 105 110  
Asp His Arg Thr Leu Ala Ser Glu Glu Asn Val Ile Val Val Ser Leu  
115 120 125  
Gln Tyr Arg Val Ala Ser Leu Gly Phe Leu Phe Leu Gly  
130 135 140

<210> 117

<211> 137

<212> PRT

<213> Culex pipiens quinquefasciatus strain Brésil (S)

<400> 117

Leu Glu Ala Pro Ser Gly Lys Lys Val Asp Ala Trp Met Gly Ile Pro  
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Tyr Ala Gln Pro Pro Leu Gly Pro Leu Arg Phe Arg His Pro Arg Pro  
20 25 30  
Ala Glu Arg Trp Thr Gly Val Leu Asn Ala Thr Lys Pro Pro Asn Ser  
35 40 45  
Cys Val Gln Ile Val Asp Thr Val Phe Gly Asp Phe Pro Gly Ala Thr  
50 55 60  
Met Trp Asn Pro Asn Thr Pro Leu Ser Glu Asp Cys Leu Tyr Ile Asn  
65 70 75 80  
Val Val Val Pro Arg Pro Arg Pro Lys Asn Ala Ala Val Met Leu Trp  
85 90 95  
Ile Phe Gly Gly Gly Phe Tyr Ser Gly Thr Ala Thr Leu Asp Val Tyr  
100 105 110  
Asp His Arg Thr Leu Ala Ser Glu Glu Asn Val Ile Val Val Ser Leu  
115 120 125  
Gln Tyr Arg Val Ala Ser Leu Gly Phe  
130 135

<210> 118

<211> 139

<212> PRT

<213> Culex pipiens quinquefasciatus strain Moorea (S)

<400> 118

Thr Leu Glu Ala Pro Ser Gly Lys Lys Val Asp Ala Trp Met Gly Ile  
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Pro Tyr Ala Gln Pro Pro Leu Gly Pro Leu Arg Phe Arg His Pro Arg  
20 25 30  
Pro Ala Glu Arg Trp Thr Gly Val Leu Asn Ala Thr Lys Pro Pro Asn  
35 40 45

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Ser Cys Val Gln Ile Val Asp Thr Val Phe Gly Asp Phe Pro Gly Ala  
 50 55 60  
 Thr Met Trp Asn Pro Asn Thr Pro Leu Ser Glu Asp Cys Leu Tyr Ile  
 65 70 75 80  
 Asn Val Val Val Pro Arg Pro Arg Pro Lys Asn Ala Ala Val Met Leu  
 85 90 95  
 Trp Ile Phe Gly Gly Gly Phe Tyr Ser Gly Thr Ala Thr Leu Asp Val  
 100 105 110  
 Tyr Asp His Arg Thr Leu Ala Ser Glu Glu Asn Val Ile Val Val Ser  
 115 120 125  
 Leu Gln Tyr Arg Val Ala Ser Leu Gly Phe Leu  
 130 135

<210> 119  
 <211> 134  
 <212> PRT  
 <213> Culex pipiens pipiens strain Killcare (S)

<400> 119  
 Ser Gly Lys Lys Val Asp Ala Trp Met Gly Ile Pro Tyr Ala Gln Pro  
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 Pro Leu Gly Pro Leu Arg Phe Arg His Pro Arg Pro Ala Glu Arg Trp  
 20 25 30  
 Thr Gly Val Leu Asn Ala Thr Lys Pro Pro Asn Ser Cys Val Gln Ile  
 35 40 45  
 Val Asp Thr Val Phe Gly Asp Phe Pro Gly Ala Thr Met Trp Asn Pro  
 50 55 60  
 Asn Thr Pro Leu Ser Glu Asp Cys Leu Tyr Ile Asn Val Val Val Pro  
 65 70 75 80  
 Arg Pro Arg Pro Lys Asn Ala Ala Val Met Leu Trp Ile Phe Gly Gly  
 85 90 95  
 Gly Phe Tyr Ser Gly Thr Ala Thr Leu Asp Val Tyr Asp His Arg Thr  
 100 105 110  
 Leu Ala Ser Glu Glu Asn Val Ile Val Val Ser Leu Gln Tyr Arg Val  
 115 120 125  
 Ala Ser Leu Gly Phe Leu  
 130

<210> 120  
 <211> 2527  
 <212> DNA  
 <213> Anopheles gambiae strain YAO

<400> 120  
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 tcagacgcacat tttttacacc atatataagg caccggtgagt ccgcacgaat tatagatgcc 180  
 gagttgggca cgctcgagca tgtacacagt ggagcaacgc cgcggcgacg cggctctgacg 240  
 aggcgcgagt caaactcggg taagtacgcg attggaagtg gggggacgtt taccctaccg 300  
 tgtactacaa cgcactttac cccacgcac acgcaccggc agacgcgaac gacaacgatc 360



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<210> 121  
 <211> 2214  
 <212> DNA  
 <213> Anopheles gambiae strain YAO

<220>  
 <221> CDS  
 <222> (1)..(2214)

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atg gtt ccg ctg ggt ctg ctc ggc gtg acc gcg ctg cta cta atc ctg 96
Met Val Pro Leu Gly Leu Leu Gly Val Thr Ala Leu Leu Leu Ile Leu
20 25 30

cca ccc tcc gcg ctg gtg cag ggc cgg cac cac gag ctc aac aat ggt 144
Pro Pro Ser Ala Leu Val Gln Gly Arg His His Glu Leu Asn Asn Gly
35 40 45

gcc gcc atc gga tcg cat cag ctg tcg gct gcc gcc ggt gtt ggc ctt 192
Ala Ala Ile Gly Ser His Gln Leu Ser Ala Ala Ala Gly Val Gly Leu

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## 60

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Val 305	Ser	Leu	Gln	Tyr	Arg 310	Val	Ala	Ser	Leu	Gly 315	Phe	Leu	Phe	Leu	Gly 320	
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cta Leu	cgc Arg	tgg Trp	gtg Val 340	cgg Arg	gac Asp	aac Asn	att Ile	cac His 345	cgg Arg	ttc Phe	ggt Gly	ggt Gly	gat Asp 350	ccg Pro	tcg Ser	1056
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cat His 370	ctg Leu	ctg Leu	tcc Ser	gcc Ala	ctt Leu	tcc Ser 375	cgc Arg	gat Asp	ctg Leu	ttc Phe	cag Gln 380	cgg Arg	gcc Ala	atc Ile	ctg Leu	1152
cag Gln 385	agc Ser	ggc Gly	tcg Ser	ccg Pro	acg Thr 390	gca Ala	ccg Pro	tgg Trp	gca Ala	ttg Leu 395	gta Val	tcg Ser	cgc Arg	gag Glu	gaa Glu 400	1200
gcc Ala	acg Thr	cta Leu	aga Arg	gca Ala 405	ctg Leu	cgg Arg	ttg Leu	gcc Ala	gag Glu 410	gcg Ala	gtc Val	ggc Gly	tgc Cys	ccg Pro 415	cac His	1248
gaa Glu	ccg Pro	agc Ser	aag Lys 420	ctg Leu	agc Ser	gat Asp	gcg Ala	gtc Val 425	gag Glu	tgt Cys	ctg Leu	cgc Arg	ggc Gly 430	aag Lys	gat Asp	1296
ccg Pro	cac His	gtg Val 435	ctg Leu	gtc Val	aac Asn	aac Asn	gag Glu 440	tgg Trp	ggc Gly	acg Thr	ctc Leu	ggc Gly 445	att Ile	tgc Cys	gag Glu	1344
ttc Phe 450	ccg Pro	ttc Phe	gtg Val	ccg Pro	gtg Val 455	gtc Val	gac Asp	ggt Gly	gcg Ala	ttc Phe	ctg Leu 460	gac Asp	gag Glu	acg Thr	ccg Pro	1392
cag Gln 465	cgt Arg	tcg Ser	ctc Leu	gcc Ala	agc Ser 470	ggg Gly	cgc Arg	ttc Phe	aag Lys	aag Lys 475	acg Thr	gag Glu	atc Ile	ctc Leu	acc Thr 480	1440
ggc Gly	agc Ser	aac Asn	acg Thr	gag Glu 485	gag Glu	ggc Gly	tac Tyr	tac Tyr	ttc Phe 490	atc Ile	atc Ile	tac Tyr	tac Tyr	ctg Leu 495	acc Thr	1488
gag Glu	ctg Leu	ctg Leu	cgc Arg 500	aag Lys	gag Glu	gag Glu	ggc Gly	gtg Val 505	acc Thr	gtg Val	acg Thr	cgc Arg	gag Glu 510	gag Glu	ttc Phe	1536
ctg Leu	cag Gln	gcg Ala 515	gtg Val	cgc Arg	gag Glu	ctc Leu	aac Asn 520	ccg Pro	tac Tyr	gtg Val	aac Asn	ggg Gly 525	gcg Ala	gcc Ala	cgg Arg	1584
cag Gln 530	gcg Ala	atc Ile	gtg Val	ttc Phe	gag Glu	tac Tyr 535	acc Thr	gac Asp	tgg Trp	acc Thr	gag Glu 540	ccg Pro	gac Asp	aac Asn	ccg Pro	1632
aac Asn 545	agc Ser	aac Asn	cgg Arg	gac Asp	gcg Ala 550	ctg Leu	gac Asp	aag Lys	atg Met	gtg Val 555	ggc Gly	gac Asp	tat Tyr	cac His	ttc Phe 560	1680

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acc tgc aac gtg aac gag ttc gcg cag cgg tac gcc gag gag ggc aac	1728
Thr Cys Asn Val Asn Glu Phe Ala Gln Arg Tyr Ala Glu Glu Gly Asn	
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aac gtc tac atg tat ctg tac acg cac cgc agc aaa ggc aac ccg tgg	1776
Asn Val Tyr Met Tyr Leu Tyr Thr His Arg Ser Lys Gly Asn Pro Trp	
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ccg cgc tgg acg ggc gtg atg cac ggc gac gag atc aac tac gtg ttc	1824
Pro Arg Trp Thr Gly Val Met His Gly Asp Glu Ile Asn Tyr Val Phe	
595 600 605	
ggc gaa ccg ctc aac ccc acc ctc ggc tac acc gag gac gag aaa gac	1872
Gly Glu Pro Leu Asn Pro Thr Leu Gly Tyr Thr Glu Asp Glu Lys Asp	
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ttt agc cgg aag atc atg cga tac tgg tct aac ttt gcc aaa acc ggc	1920
Phe Ser Arg Lys Ile Met Arg Tyr Trp Ser Asn Phe Ala Lys Thr Gly	
625 630 635 640	
aat cca aat ccc aac aca gcc agc agc gaa ttc ccc gag tgg ccc aag	1968
Asn Pro Asn Pro Asn Thr Ala Ser Ser Glu Phe Pro Glu Trp Pro Lys	
645 650 655	
cac acc gcc cac gga cgg cac tat ctg gag ctg ggc ctc aac acg tcc	2016
His Thr Ala His Gly Arg His Tyr Leu Glu Leu Gly Leu Asn Thr Ser	
660 665 670	
ttc gtc ggt cgg ggc cca cgg ttg agg cag tgt gcc ttc tgg aag aag	2064
Phe Val Gly Arg Gly Pro Arg Leu Arg Gln Cys Ala Phe Trp Lys Lys	
675 680 685	
tac ctt ccc cag cta gtt gca gct acc tcg aac cta cca ggg cca gca	2112
Tyr Leu Pro Gln Leu Val Ala Ala Thr Ser Asn Leu Pro Gly Pro Ala	
690 695 700	
ccg ccc agt gaa ccg tgc gaa agc agc gca ttt ttt tac cga cct gat	2160
Pro Pro Ser Glu Pro Cys Glu Glu Ser Ser Ala Phe Phe Tyr Arg Pro Asp	
705 710 715 720	
ctg atc gtg ctg ctg gtg tcg ctg ctt acg gcg acc gtc aga ttc ata	2208
Leu Ile Val Leu Leu Val Ser Leu Leu Thr Ala Thr Val Arg Phe Ile	
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Gln	

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 <212> PRT  
 <213> Anopheles gambiae strain YAO

<400> 122  
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 Pro Pro Ser Ala Leu Val Gln Gly Arg His His Glu Leu Asn Asn Gly  
 35 40 45

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65 70 75 80  
Ser Val Pro Ala Ala Gly Ala Ser Ser Ser Ser Ser Ser Leu Leu  
85 90 95  
Ser Ser Ser Ala Glu Asp Asp Val Ala Arg Ile Thr Leu Ser Lys Asp  
100 105 110  
Ala Asp Ala Phe Phe Thr Pro Tyr Ile Gly His Gly Glu Ser Ala Arg  
115 120 125  
Ile Ile Asp Ala Glu Leu Gly Thr Leu Glu His Val His Ser Gly Ala  
130 135 140  
Thr Pro Arg Arg Arg Gly Leu Thr Arg Arg Glu Ser Asn Ser Asp Ala  
145 150 155 160  
Asn Asp Asn Asp Pro Leu Val Val Asn Thr Asp Lys Gly Arg Ile Arg  
165 170 175  
Gly Ile Thr Val Asp Ala Pro Ser Gly Lys Lys Val Asp Val Trp Leu  
180 185 190  
Gly Ile Pro Tyr Ala Gln Pro Pro Val Gly Pro Leu Arg Phe Arg His  
195 200 205  
Pro Arg Pro Ala Glu Lys Trp Thr Gly Val Leu Asn Thr Thr Thr Pro  
210 215 220  
Pro Asn Ser Cys Val Gln Ile Val Asp Thr Val Phe Gly Asp Phe Pro  
225 230 235 240  
Gly Ala Thr Met Trp Asn Pro Asn Thr Pro Leu Ser Glu Asp Cys Leu  
245 250 255  
Tyr Ile Asn Val Val Ala Pro Arg Pro Arg Pro Lys Asn Ala Ala Val  
260 265 270  
Met Leu Trp Ile Phe Gly Gly Ser Phe Tyr Ser Gly Thr Ala Thr Leu  
275 280 285  
Asp Val Tyr Asp His Arg Ala Leu Ala Ser Glu Glu Asn Val Ile Val  
290 295 300  
Val Ser Leu Gln Tyr Arg Val Ala Ser Leu Gly Phe Leu Phe Leu Gly  
305 310 315 320  
Thr Pro Glu Ala Pro Gly Asn Ala Gly Leu Phe Asp Gln Asn Leu Ala  
325 330 335  
Leu Arg Trp Val Arg Asp Asn Ile His Arg Phe Gly Gly Asp Pro Ser  
340 345 350  
Arg Val Thr Leu Phe Gly Glu Ser Ala Gly Ala Val Ser Val Ser Leu  
355 360 365  
His Leu Leu Ser Ala Leu Ser Arg Asp Leu Phe Gln Arg Ala Ile Leu  
370 375 380

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Gln Ser Gly Ser Pro Thr Ala Pro Trp Ala Leu Val Ser Arg Glu Glu  
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Ala Thr Leu Arg Ala Leu Arg Leu Ala Glu Ala Val Gly Cys Pro His  
405 410 415  
Glu Pro Ser Lys Leu Ser Asp Ala Val Glu Cys Leu Arg Gly Lys Asp  
420 425 430  
Pro His Val Leu Val Asn Asn Glu Trp Gly Thr Leu Gly Ile Cys Glu  
435 440 445  
Phe Pro Phe Val Pro Val Val Asp Gly Ala Phe Leu Asp Glu Thr Pro  
450 455 460  
Gln Arg Ser Leu Ala Ser Gly Arg Phe Lys Lys Thr Glu Ile Leu Thr  
465 470 475 480  
Gly Ser Asn Thr Glu Glu Gly Tyr Tyr Phe Ile Ile Tyr Tyr Leu Thr  
485 490 495  
Glu Leu Leu Arg Lys Glu Glu Gly Val Thr Val Thr Arg Glu Glu Phe  
500 505 510  
Leu Gln Ala Val Arg Glu Leu Asn Pro Tyr Val Asn Gly Ala Ala Arg  
515 520 525  
Gln Ala Ile Val Phe Glu Tyr Thr Asp Trp Thr Glu Pro Asp Asn Pro  
530 535 540  
Asn Ser Asn Arg Asp Ala Leu Asp Lys Met Val Gly Asp Tyr His Phe  
545 550 555 560  
Thr Cys Asn Val Asn Glu Phe Ala Gln Arg Tyr Ala Glu Glu Gly Asn  
565 570 575  
Asn Val Tyr Met Tyr Leu Tyr Thr His Arg Ser Lys Gly Asn Pro Trp  
580 585 590  
Pro Arg Trp Thr Gly Val Met His Gly Asp Glu Ile Asn Tyr Val Phe  
595 600 605  
Gly Glu Pro Leu Asn Pro Thr Leu Gly Tyr Thr Glu Asp Glu Lys Asp  
610 615 620  
Phe Ser Arg Lys Ile Met Arg Tyr Trp Ser Asn Phe Ala Lys Thr Gly  
625 630 635 640  
Asn Pro Asn Pro Asn Thr Ala Ser Ser Glu Phe Pro Glu Trp Pro Lys  
645 650 655  
His Thr Ala His Gly Arg His Tyr Leu Glu Leu Gly Leu Asn Thr Ser  
660 665 670  
Phe Val Gly Arg Gly Pro Arg Leu Arg Gln Cys Ala Phe Trp Lys Lys  
675 680 685  
Tyr Leu Pro Gln Leu Val Ala Ala Thr Ser Asn Leu Pro Gly Pro Ala  
690 695 700  
Pro Pro Ser Glu Pro Cys Glu Ser Ser Ala Phe Phe Tyr Arg Pro Asp  
705 710 715 720

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 Gln :

<210> 123  
 <211> 20  
 <212> DNA  
 <213> Artificial sequence

<220>  
 <223> Description of artificial sequence:primer

<400> 123  
 gatcgtggac accgtgttcg 20

<210> 124  
 <211> 20  
 <212> DNA  
 <213> Artificial sequence

<220>  
 <223> Description of artificial sequence:primer

<400> 124  
 aggatggccc gctggaacag 20

<210> 125  
 <211> 2214  
 <212> DNA  
 <213> Anopheles gambiae strain KISUMU

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 <221> CDS  
 <222> (1)..(2214)

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 Met Val Pro Leu Gly Leu Leu Gly Val Thr Ala Leu Leu Leu Ile Leu  
 20 25 30  
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 Pro Pro Ser Ala Leu Val Gln Gly Arg His His Glu Leu Asn Asn Gly  
 35 40 45  
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 Ala Ala Ile Gly Ser His Gln Leu Ser Ala Ala Ala Gly Val Gly Leu  
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 Ser Ser Gln Ser Ala Gln Ser Gly Ser Leu Ala Ser Gly Val Met Ser  
 65 70 75 80  
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s644LISTGB80  
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